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ABSTRACT

This monograph focuses upon the topical problems of the relationship of the teacher and information, namely as its user, producer, communicator, and methodologist. The basic postulate for the concept of the content and structure of this work were recommendations contained in documents of the respective international organizations and conferences defining the following priorities: (1) the evaluation of the efficiency of services provided by educational information systems at the national and international levels in relation to the differentiate needs of various categories of educational personnel; (2) the study of the information needs of teachers as the most numerous and most varied category of users of information with regard to the specificities of their information environment and behavior; and (3) the assessment of the problem of information training in relation to teachers in connection with their own skills and methodological tasks in the field of information literacy as a part of education. References to the literature document the stated facts and provide information on sources with limited distribution. Supplements include the following: (1) examples from international education data bases; (2) examples of documents regulating the information training of teachers; (3) bibliographies totaling five pages; and (4) the author's abstract in Russian, French, German, and Spanish. (JD)

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INFORMATION AND THE TEACHER

Hana Procházková

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I N F O R M A T I O N A N D T H E T E A C H E R

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Prague

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P r e f a c e

In the 4th volume of this series the European Information Centre of Charles University for Further Education of Teachers (EIC-FET) issues a monographic study devoted to the topical problems of the relationship of the teacher and information, and namely as its user, producer, communicator and methodologist.

The approach used in this publication follows from the long years experience of the author in the field of the theory and practice of scientific and technological information which since the 1960´s she has been applying in the research and implementation of information services for the development of educational systems, the science of education and teacher training at national and international levels.

In the first half of the 1970´s the author was a staff member of the Department of Librarianship and Scientific Information of Charles University in Prague where she managed the research project "Training of Users of Specialized Information" within the Programme of State Information Policy for the Scientific and Technological Development of the National Economy of the Czechoslovak Socialist Republic. The team approach to the solution of the broad problem area of information literacy led to close cooperation between information specialists and educators. They agreed on the recommendation that the introduction of such "education for information" should always be preceded by the training of teachers in this respect at schools of all levels.

In the following period the author of the study was a staff member of the branch information centre within the Ministry of Education of the Czech Socialist Republic where she took part in work on the research project "Establishing the Information Network for Improving Educational Systems". As early as in the analytical stage of the project it became evident that with regard to the innovation of the educational process teachers are the key category of users of information services but that, as compared with educational researchers and school administrators, they are a relatively neglected category. The number of educational personnel and their differentiated needs require an interdisciplinary approach to be taken towards securing the whole complex of "information for education".

The author´s third field of activity allowed her to study both poles of the teacher-information relationship as well as the practical problems of the skills necessary for the use of information and institutions for training the information skills in the broader international context. Work on the research project of EIC-FET "Optimization of the Communication Process in the Field of In-service Teacher Education" confirmed the assumption that these problems by far do not only exist on national level and that they are not merely problems related to information or educational systems. The common denominator is in-service teacher education which is one of the sources as well as the motivation both for the use and production of information and also an important

means for the information training of teachers and through them, multiplied, also for the training of pupils and students.

This multiaspect approach was applied to work on this study. Methodologically the author proceeded from a relatively extensive study of the literature and field research oriented to: the organization and types of activities and state of the legislation, profiles of institutions and their interrelations, international associations and forums, formalization of the communication process and sources of information on literature in the given area.

A multitude of information was acquired at international conferences, from the exchange of experiences with foreign institutions and specialists and in the participation of the author in the comparative research of systems of educational information in the socialist countries. Specially valuable was information drawn from bilateral cooperation, e.g., with institutions in USSR, Poland, FRG and UK; from international organizations, mainly thanks to Unesco - through the General Information Programme and using search and acquisition possibilities provided by contractual cooperation between EIC-FET and the International Bureau of Education in Geneva.

Material gathering and study was but the initial stage of the work. This cross-sectional subject area has a problematic and varied publication base which is little suitable for comparative or synthetic survey. What is thus presenting is more of a probe into the state of knowledge of various aspects of the selected topics on an international scale, mostly illustrated on examples.

The basic postulate for the concept of the content and structure of the work were recommendations contained in documents of the respective international organizations and conferences defining the following priorities:

a) the evaluation of the efficiency of services provided by educational information systems at national and international levels in relation to the differentiated needs of various categories of educational personnel;

b) the study of the information needs of teachers as the most numerous and most varied category of users (and producers) of information with regard to the specificities of their information environment and behaviour;

c) the assessment of the problem of information training in relation to teachers, i.e., in connection with their own skills and methodological tasks in the field of information literacy as part of education, with regard to the consequences of the development of information science and technology in education.

References to the literature document the stated facts and provide information on sources with limited distribution of which most are filed in EIC-FET. This could be useful especially for those who will want to develop certain aspects of the given subject area. The citations refer both to ana-

lytics from proceedings, journals, etc. which are supplemented to each of the three chapters and to the basic literature listed at the end of the study. They are designated with the number of the chapter (1 to 3), or with number 4 for the general sources, and then after the dash with the serial number of the citation, e.g., 3-34.

The publication is designed for the broader specialized public in the field of both information and educational sciences; librarians and teachers, workers in information services and educational systems. It is published in the Czech, Russian and English versions (these latter with additional author abstracts in English/Russian, French, German and Spanish). It is to promote the dialogue between specialists in the respective and allied fields and their cooperation in the solution of open questions indicated in the study. EIC-PET will welcome suggestions, comments, criticism and addenda, as its aim is to endorse mutual discussion and thereby also international understanding and peaceful cooperation.

The author would like to thank her colleagues in EIC-PET and reviewers for effective support and valuable suggestions.

C O N T E N T S page

1 SYSTEMS OF EDUCATIONAL INFORMATION AND THEIR SERVICES 1

1.1 National Centres and Networks in the Field of Educational Information 5

1.1.1 Development and Profiling of Institutional Base 5
1.1.2 Division of Labour inside National Networks of Educational Information 9
.1 in the countries of the socialist community . . 10
.2 in the West European countries 14
1.1.3 International Cooperation 17

1.2 Systems of Educational Information in the European Region 21

1.2.1 ERIC /USA/ 21
1.2.2 EUDISED /Council of Europe/ 25
1.2.3 DOPAED /German language area of Western Europe/ . 29
1.2.4 PEDINFORM /socialist countries/ 32

1.3 Unesco and the Role of International Bureau of Education 39

1.3.1 Unesco General Information Programme 39
1.3.2 Information Mission of IBE 43
1.3.3 Internationl Network for Educational Information /INED/ 48

1.4 Regional Information Subsystem for In-service Education of Teachers /INSET/ 55

1.4.1 Origin and Tasks of European Information Centre for Further Education of Teachers /EIC-FET/ 56
1.4.2 Establishing Information Network and Services for INSET 59
1.4.3 International Impact of EIC-FET Activities . . . 65

1.5 Literature - Chapter 1 69

2 INFORMATION NEEDS OF TEACHERS 73

2.1 Information Environment of Educational Personnel 77

2.1.1 Communication Channels in the Educational System 77
2.1.2 Unity of information and Education Needs of Teachers 82
2.1.3 Innovation of Educational Process and the Information Awareness of the Teacher 86

C O N T E N T S /cont./ page

2.2 Information Behaviour of Teachers 91

2.2.1 Educational Research and Information Dissemination 91
2.2.2 The Teaching Profession and Educational Literature 95
2.2.3 Users of the Services of Information Systems in Education 99
2.2.4 Teachers' Attitude to Information Sources 104

2.3 Survey of Teacher's User Profile Comparative Study /Poland, UK, USSR/ 108

2.3.1 Postulates and Intents 109
2.3.2 Description of Projects 111
2.3.3 Results of Experiments 113
.1 Information Needs 113
.2 Information Retrieval 115
.3 Use of Information and Suggestions 117
2.3.4 Conclusions and Recommendations 119

2.4 The Use of EIC-FET Information Services 121

2.4.1 Profiles of Information Users 123
2.4.2 Information Needs or Preferences of Users 125
2.4.3 Requirements for Information Services and Cooperation 127

2.5 Literature - Chapter 2 131

3 INFORMATION LITERACY AND THE SCHOOL 135

3.1 User Education within Information Policy 137

3.1.1 International Activities 137
3.1.2 Unesco Recommendations 141
3.1.3 Examples of National Programmes and Services /USSR, USA, UK, Czechoslovakia/ 146

3.2 Information Literacy as Part of Education 153

3.2.1 Educational Process and Information Technology . . 154
3.2.2 Information Oriented Education 159
3.2.3 Development of Information Skills and Curricula - Examples of National Measures /Czechoslovakia, UK/. 162

3.3 Library and Bibliographic Components of Information Training 167

3.3.1 The Role of Bibliography in Educational Science and Practice 167
3.3.2 Participation of Libraries in Information Training of Youth in Certain Countries 172
3.3.3 The School Librarian and the Teacher 178

C O N T E N T S /cont./ page

3.4 Information Qualifications of Teachers 183
3.4.1 General Considerations 183
3.4.2 International Recommendations - Chronological Survey 188
3.4.3 Examples of National Programmes of Teacher Training /UK, Poland, Czechoslovakia/ 193

3.5 Literature - Chapter 3 201

4 SUPPLEMENTS 205

4.1 Examples of the International Bibliographic Data Bases in Education 207

4.2 Examples of Documents Regulating Information Training of Teachers 233

4.3 List of Abbreviations 241

4.4 List of General Sources 245

4.5 List of Secondary Sources and Periodicals 249

4.6 Author Abstract in Russian 251
French 257
German 263
Spanish 269

1 SYSTEMS OF EDUCATIONAL INFORMATION AND THEIR SERVICES

1 SYSTEMS OF EDUCATIONAL INFORMATION AND THEIR SERVICES

Most countries are currently undergoing a re-evaluation of educational systems with the aim of attaining their maximum social effectiveness. The exchange of knowledge about this process is part of the communication of educational information[x)] whose control is becoming a significant component of programmes of both educational and information policy in advanced countries and the subject of international cooperation. The upgrading and rationalization of information activities are instruments of scientific decision-making, a form of increasing the efficiency of research and a means of applying its results, as well as of introducing innovations directly into practice. This mainly applies for the field of education because of its prospective social nature[4-30].

Educational information as compared with other information areas has a somewhat unique position [4-21,22]. The unity of ideological postulates, political aims, the organization and methodology of education has social character and their communication process should thus form part of the system of social science information. However, the subject of educational activity is the didactic mediating of selected information from all fields of science and technology. This factor, which is seemingly dominant, could incorporate educational information into the systems of scientific and technological information which are moreover historically better constituted and to a certain extent, albeit on a different communication level, could duplicate them.

However, on the international scale one can observe a significant symptom, both within the framework of CMEA and within Unesco, namely that the systems of educational information are developing relatively independently even if they respect the development of the respective branch and territorial information macrosystems. This specific nature of educational information systems follows from the topical and

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x) the term used in the international cooperation of Unesco Member States (see 1-6,8,9)

significant need of regulating the communication process both inside national educational systems and between these systems with the aim of exchanging experience with the implementation of innovations, comparing conceptual postulates and integrating the knowledge stock.

In practice the construction of systems of educational information is based on the organisational structure of educational and information institutions and on their functional division of labour. The development of educational information and the establishment of modern information systems will be clarified by a brief historical excursion.

1.1 National Centres and Networks in the Field of Educational Information

1.1.1 Development and Profiling of Institutional Base

The establishment of institutions dealing with the c o l l e c t i o n of documents both concerning education and used in the educational process began in Europe in the 19th century. Such institutions were known as school museums and also collected teaching aids.

The idea of information s e r v i c e s to follow up on these collections developed at a slower pace even though the need for such services was felt from the early 19th century[1-16]. The beginnings of such services date back to the second half of the 19th century e.g. in England and Canada /1857/, in Russia and Italy /1871/, in Austria-Hungary, Belgium and Germany /1877/, in the Netherlands /1880/, in Denmark /1897/, etc. In 1867 the Office of Education was established in the United States of America which was a specialized institution for collecting and especially for supplying information and data on educational systems, at first mainly information of factual character[4-12].

Another stage in this development began in 1879 when the French government established in Paris the Musée pédagogique as an official institution to provide teachers in the whole country with documentation which they needed for their work. Either spontaneously or under the influence of these models specialized educational libraries or museums were also established in other countries whose aim was both to satisfy the information needs of educational personnel and to contribute to their education.

In the early 20th century teachers organizations and institutions of educational research joined the government effort to promote the said initiative. Thus, for instance, 1915 saw the opening of the Zentral-Institut für Erziehung und Unterricht in Berlin. This was an institution in which were represented central, regional and local education authorities and teachers organizations. In 1919 what later became Comenius State Pedagogical Library was opened in Prague in connec-

tion with the establishment of the central institution for educational research in the newly established Czechoslovak Republic.

After the First World War when the idea of i n t e r n a t i o n a l c o o p e r a t i o n was expressed together with the establishment of the League of Nations a more active interest was becoming manifest in the exchange of information between state institutions for educational documentation. This led to an increase in their number (by the 1930´s there were more than thirty) and to organized cooperation between them. In 1931 experts in this field met for the first time under the auspices of the League of Nations. The meeting was convened by the International Bureau of Education /IBE/ in Geneva, initially founded in 1925, which officially became an international organization in 1929.

Further development of international cooperation in the field of educational information continued after the end of the Second World War. The establishment of the United Nations Education, Science and Culture Organization (Unesco) in 1945 was accompanied by national endeavour for the development of educational systems which in turn yielded more documentation and research work aimed at improving the exchange of materials. The close cooperation of the two organizations since 1946 finally resulted in 1969 in the integration of IBE within Unesco.

The sphere of information recorded increased activity on the i n i t i a t i v e o f U n e s c o from the early 1960´s. National centres (hereinafter referred to as NC) of educational information and documentation were established on the basis of the fulfilment of one of the resolutions of the 10th session of Unesco General Conference (1958) and on the initiative of the Ministries of Education of the Unesco Member States.

In the 1960´s and 1970´s, with the establishment of a number of new independent countries the organization of national educational systems began to improve and their information basis was built. The Unesco Secretariat in Paris, following on

tradition (1938, 1957), published for their mutual recognition and cooperation a survey of institutions which in the individual countries participated in scientific communication in the field of pedagogy and education and their detailed profiles, and namely first in 1963, and the new edition in several languages was issued in 1971 when this directory incorporated 95 countries.

IBE assumed the c o o r d i n a t i o n f u n c t i o n in the field of educational information in the early 1970's. It publishes and updates directories of NC in Unesco Member States (1975, 1977, 1979, 1982)[1-27] which cover the following data: official name with translation, address, country, year of creation, present head, parent organization, size of staff (of this number of professionals), type of activities, people served, services given, fields covered, size of collection (books and documents, periodicals received annually), methods of data processing (manual, mechanical, computerized), classification system, audiovisual materials, reprographic services, periodical publications, monographs, studies and surveys in preparation.

Detailed information on the national networks in the field of educational information was collected by IBE on the occasion of the 36th session of International Conference on Education (Geneva 1977)[4-17] at which the governments of the Unesco Member States presented reports on the state of educational information at national level by responding to an unified questionnaire. The annotated survey of these reports is available from IBE on microfiche (see also Section 1.3.2).

The s o u r c e o f i n f o r m a t i o n on the development of these national networks in the European region are also the proceedings of the EDICO colloquys[4-5 to 8]; a comparative study related to the systems of educational information in certain socialist countries[1-21]; and the proceedings of the meeting of specialists from West European countries[4-9] (see also end of Section 1.2).

All these sources make it possible to assess the nature of individual NC, the division of labour in national territo-

rial and specialized networks of other institutions and the development of information systems services aimed at improving the educational process.

The functional competence and profile of services[4-12] provided by national centres (NC) may thus be identified by their organizational incorporation as follows:

a) An official institution supported by the Ministry of Education but relatively autonomous (approximately in one third of all countries). Such information centres have been established to meet the needs of all or most of the users of educational information in the respective countries - e.g.,in Czechoslovakia.

b) An internal unit of the Ministry of Education which is responsible for educational information (in approximately 25% of all countries). Such units are usually part of the planning and statistics division and mostly provide information oriented to educational administration - e.g.,in the Netherlands, Austria, Spain.

c) A research institute or educational institution which also fulfil the function of the national centre for educational information (also in 25% of all countries). These institutions are also coordinators of educational research or teacher education and mainly provide information for this areas (e.g., in France, Poland, Great Britain).

d) In the other countries (about 1/6) the central educational library supported by the Ministry of Education functions as the national centre of educational information (e.g., in Hungary, Sweden).

The trend of development of NC of educational information in the individual countries is proceeding towards functional integration, no matter what the organizational arrangement. In some cases the purposeful delimitation has been preserved of functions between the information centre and the educational library (Italy, GDR, USSR). In other countries the centre of educational information fulfils also other than information tasks, e.g., in the field of the development of teaching aids (France), in in-service teacher education (Italy), in the organization of educational research (USA, UK).

1.1.2 Division of Labour inside National Networks of Educational Information

The trend toward the development of i n f o r m a t i o n n e t w o r k s based on cooperation and division of labour among institutions providing information services within the field of education (be they incorporated in the organizational structure of the educational system or not) has mainly been manifested in the last two decades. This is later than in other fields of human activity, mainly in the field of science and technology. The design and mainly the evaluation of information services in education takes into consideration first of all the extent to which they contribute to the upgrading of the educational process. The information user should be the primary and ultimate factor in the functioning of information systems.

However, the same persons may be both users and authors of information; besides, the number and diversity of educational personnel complicates the building up of information systems in this field. Therefore, the aims of the collection and processing of educational information should be assessed by two basic criteria:

- of individual user groups and their requirements
- of the information system as a whole with regard to the societal needs.

The first aspect is important in order to make information searched for by users differentiated, selective and adequate. The second aspect should be observed in order to make the information file as a whole serve the objective needs of the development of the educational system; it must be complex as well as operational.

The said dialectical relationship between the part and the whole is manifest in designing information networks in connection with their territorial distribution on one hand and in connection with their subject structure on the other. Both principles are mostly aimed at establishing a hierarchy of information systems. At the central level relatively complete information may be collected but the satisfaction of in-

formation needs is often hindered by a low level of analytical information processing. At the specialized level subjective criteria are applied to the selection of information, as well as local and momentary interests of users and the search for information does not have a multi-aspect character, especially in the study of cross-sectional problem areas.

Information systems are striving to resolve these problems by establishing a d i v i s i o n o f l a b o u r within the national networks, as will be shown below.

1.1.2.1 In the countries of the socialist community educational information networks are developed on the basis of a unified educational systems and the national systems of scientific and technological as well as social science information. In these systems NC usually have the function of branch information centres for education. Owing to the varied degree of division of labour (and decentralization) other institutions are often involved in the fulfilment of this function.

An example of a decentralized s u b j e c t division of labour is provided by Poland where the network was based on the operation of five research institutes of the Ministry of Education with educational information centres. One of these centres in the Institute of Educational Research (IBP) is authorized to represent this field at international forums as a NC. Another of these centres, in the Institute for Teacher Education (IKN), is the coordinator of the national information network in the field of in-service training of educational personnel. The need of the centralization resulted in the normative establishment by the Polish Ministry of Education of the network of educational information and central educational library[4-8].

There is also the possibility of a division of labour being operated along the lines of the l e v e l s o f t h e e d u c a t i o n a l s y s t e m, this in dependence on sector affiliation. In most countries of the socialist community there are separate NC operating for primary and secondary schools, or only for general education, and separately for higher education, possibly for secondary vocational educa-

tion, (e.g., in GDR and USSR). In Czechoslovakia on the other hand a general integration has been achieved of information in the whole educational system (including the system of adult education) within the framework of NC in the Czech Socialist Republic and the Slovak Socialist Republic, incorporated in them have also been the respective central pedagogical libraries.

Both Czechoslovak NC serve as an example of the t e r r i t o r i a l division of labour in the framework of the whole federation. At the same time the Prague NC has the status of a branch information centre in the national information system along internal lines; in international cooperation, however, Czechoslovakia is represented mostly by both NC. Similar federal decentralization also exists in individual republics in Yugoslavia.

A different approach has been taken in Hungary where the National Pedagogical Library and Museum is a NC. This is because it has extended its functions itself by providing information services in the field of education. It also operates as the methodological centre for information activities carried out by institutions for the in-service education of teachers and institutions of higher education training for the teaching profession, as well as for school libraries. On the national scale it coordinates its branch operations on the lines of inter-sector cooperation.

The last type is f u n c t i o n a l division of labour where, for instance in GDR and in USSR within the framework of the respective Academies of Pedagogical Sciences or in Bulgaria and in Romania within the framework of their Ministries of Education, branch educational information centres have been established operating also as NC. In certain areas, as for instance in the international exchange of publication, the national educational bibliography and the methodological control of the network of teacher and school libraries, the central bodies share this function with central educational libraries which are the file base of information services provided by the branch information centres.

The need for disseminating educational information on the whole territory of the respective country and the requirement for providing educational personnel of all types with differentiated services is mostly beyond the possibilities of one central institution, namely with regard to the high rate of mediation and the insufficient operation efficiency of providing information. The function of branch centres is therefore followed up by the activity of other institutions. The information networks of these institutions in the field of education have in the socialist countries developed under different circumstances. With regard to objective social factors of development they have, however, been solving analogically the relationship of the subject structure and territorial division, the relationship between the information system and the network of libraries and last but not least the relationship between sector allegiance to broader branch aspects of education; however, in most cases the ultimate solution has not achieved of the problems of interdisciplinary information needs of higher education and vocational education and their relationships to the services provided by the educational information system.

The s u b j e c t structure of the network of educational information institutions in the socialist countries is based on the specialized competence of research and development institutions (according to the respective educational disciplines and problem areas) and to educational publishing facilities and enterprises for the production of teaching and learning aids, the construction and equipment of schools, etc. Within the thus formed networks there proceeds the process of collecting documents, information processing and the provision of information services. The central (branch) information body coordinates this activity, provides methodological support and itself collects general and cross-sectional information sources. The subject sub-system of specialized institutions mostly deals with the selection and analytical evaluation of the sources.

The t e r r i t o r i a l subsystem's primary task is the distribution of information while its acquisition role mainly consists in the collection of information from educa-

tional practice and its mediation between the educational system and its environment. The basis of the territorial network of educational information institutions whose work is broadened by the activities of the educational departments of public and special libraries, primarily consists of the libraries of teacher training institutions (university or colleges), institutions for in-service education of teachers, possibly other methodological institutions (pedagogical centres, teacher centres, etc. or their documentation units and libraries).

Networks of educational information institutions in the socialist countries as a whole provide information services to all main information u s e r c a t e g o r i e s, first of all in the field of school administration and educational research, and gradually for various types of educational personnel engaged in educational practice (see Sector 2.2.3).

In view of the number and inner differentiation of the serving teachers the flow of educational information must be adequately controlled. In the socialist countries it is possible to use with advantage the unified and centrally administered educational system and through the methodological institutions within its territorial structure to spread selected and evaluated information. The selection of such information should be put in harmony with the general educational aims and with the tasks set by syllabi and curricula. Practical implementation of these principles may be shown on the example of the USSR.

In the S o v i e t U n i o n[1-1,15] the system of educational information was set up under a Decree issued by the Ministry of Education of the USSR in 1974. It comprises the Branch Centre of Scientific Information (OCNI) "Škola i pedagogika" which is part of the Research Institute for General Pedagogy (NIIOP) of the Academy of Pedagogical Sciences of the USSR in Moscow, and 29 information centres of which 12 form the subject network and are based in the research institutes of the Academy of Pedagogical Sciences of the USSR, and 17 form the basis of the territorial network as part of educational research institutes of the individual republics of the USSR.

A special place in this system is held by K. D. Ušinski National Scientific Pedagogical Library (GNPB) which is also

part of the Academy of Pedagogical Sciences of the USSR and closely cooperates with OCNI for whose information services it represents the basic file (annual acquisition is around 13 thousand printed library units). It is responsible for the international exchange of publications with approximately 150 libraries in 30 countries and for the national bibliography of educational literature. The GNPB is moreover the coordination and methodological centre of the network of educational libraries (numbering more than one thousand with a file of more than half a million volumes) and school libraries (numbering 122 thousand); the GNPB also gives methodological guidance to the libraries of municipal and district educational authorities and cooperates with the libraries of other sectors, namely with the departments for children and youth of public libraries and with educational departments of special libraries.

The OCNI services are divided into two main subsystems:

a) Information publications are prepared on the basis of a profound and allround study of primary sources. These studies are made by the researches of the Academy of Pedagogical Sciences of the USSR who supervise the analysis of the individual topics and problems. Information is divided with regard to form in which it is issued and oriented into bibliographic, abstract, review and current information. The secondary publications as a whole effectively fulfil the tasks of mass informing those who are interested in educational information. The OCNI distributes them to more than 3 thousand subscribers in USSR and in other countries.

b) Selective distribution of information uses non-conventional forms of information activities. While the first subsystem follows the principle of "information for all" the second mentioned system respects the principle of "information for everyone". Its practical implementation meets the requirement of selective information, differentiation of users and operative services.

In USSR the latter subsystem has the following three forms:

- Selective dissemination of information (IRI) for scientific workers in research and development institutions.
- Differentiated services for educational administrators (DOR).
- Operative services for teachers (OOU) (see Section 2.3).

1.1.2.2 In the West European countries NC and networks in the field of educational information develop according to the specific conditions of the respective country. Their development, organisational relations and functional competence usually differ from one country to another. Their services often bear the marks of spontaneous development and diverse degree of centralisation, iniatives of the official institutions

and voluntary associations. The production of information within the educational system is often pragmatically oriented to the specific needs of certain user groups or depends on the publication of results of the work of individual institutions in the field. Weak coordination sometimes causes the duplicity of services while in certain areas the needs are not adequately met. It may generally be said that services and information cooperation are based more on the principle of consultation.

The development of the national systems of educational information in some West European countries was initiated by the building of international data bases which these systems contributed to in connection with the membership of their governments in such international organizations as Unesco, the Council of Europe, etc. (see Section 1.2).

This mainly concerns smaller countries for whom incorporation in broader regional entities was a useful integration moment, e.g., the project of Nordic educational documentation based on English. Larger national systems, such as the British and French systems show a greater measure of self-sufficiency.

In United Kingdom[1-7,10], since 1954 in the field of information librarians of teacher training colleges, members of the LISE network, have exerted efforts in the coordination of the educational documentation, building a union catalogue, the organization of inter-library loaning services, etc.

The central institution for educational information is the National Foundation for Educational Research (NFER) in England and Wales (there are similar bodies in Scotland and in Northern Ireland) one of whose tasks is the dissemination of information on the results of research and mediating sources through their information services and editorial activities. The NFER information centre and library also disseminate information and documents on the basis of bibliographic data bases such as ERIC, prospectively also from the national BEI data base. The NFER is an independent organization whose network of institutions also involves, on the basis of membership, local education authorities (LEA), universities, teachers' associations, etc., while the Department of Science and Education (DES) only has an observer status. The NFER information services also comprise the compilation of a survey on educational research in Great Britain and the publishing of this survey in two year intervals; its index is compatible with the English version of EUDISED thesaurus (see below).

While part of the information activities carried out in education is linked with educational research, the national educational bibliography "British Education Index" (BEI) is hooked to the national bibliographical system BLAISE whose indexes are compiled within the British National Bibliography according to the national thesaurus PRECIS.

Besides the terminal system for entry to the data bases for the dissemination and use of information in the British school system also educational media are applied. According to the British national report to the 36th session of International Conference on Education (Geneva 1977), the biggest problem was to secure that in the existing decentralization of information services information should reach all parts of the specialized educational community.

1-16 In the system of educational information in France information functions in education are distributed between the National Centre for Educational Documentation (CNDP) and the National Institute of Educational Research (INRP).

The INRP incorporates a library and documentation centre whose task it is to secure primarily the dissemination of information on educational research and to provide information services to research and development workers and to teachers involved in experimental activities. This unit also compiles the periodical "La revue française de pédagogie" and cooperates with the Documentation Centre for Humanities of the National Centre for Scientific Research which compiles the national periodical bibliography published as series 520 "Sciences de l'éducation" of the national educational bibliography "Bulletin signaletique".

The CNDP is authorized by the French Ministry of Education to:

- treat information on education in France and abroad and to collect documentation for education (i.e., also to fulfil the function of the centre for audiovisual aids),
- partake of the training of educational personnel in relation to the French programme of "informatisation" of education, i.e., the introduction of microcomputers into schools. The CNDP is also the coordinator of the territorial network of regional and district centres of educational documentation affiliated to educational authorities, institutions for teacher education, etc., as well as of the developing network of Documentation and Information Centres at schools. The CNDP provides them with bibliographies based on the excerption of journal articles and other information.

The CNDP computerized data base comprises a catalogue of the CNDP library and the union catalogue of institutions in the network. These documents are updated operatively on microfiche and their bibliography is issued by territory and educational fields. The implementation of the project on the operational use of this catalogue (and thereby also the collections) using telecommunications technology was entrusted by the French Ministry of Education to the Regional Centre of Educational Documentation in Toulouse (with the financial par-

ticipation of the Telecommunications Board). Terminals were experimentally deployed in the centres of the territorial network, e.g., in the centres for the in-service education of teachers three to six each. Other regional centres of educational documentation - namely in Lyon and Grenoble, deal with the use of microcomputers for documentation purposes.

On the basis of these efforts the teachers in France should have at their disposal the data base of their "own" information scope: a survey of general pedagogical, subject specialized and teacher trade union journals, educational events and teachers' association, this with regard to their specialization and the level of the school in which they teach.

1.1.3 International Cooperation

Despite the fact that the information needs of educationalists are relatively more oriented to sources of domestic provenance then is the case in other fields the further development of national educational systems also requires comparative research of materials from other countries. In the field of education there has always been an exchange of information, first spontaneous, at different levels and between different categories of educational personnel.

The teachers themselves are interested in international exchange of knowledge[4-12]. Their information needs mostly follow from their everyday educational tasks. In their subject specialization scientific unions associated in the International Council of Scientific Unions (ICSU) operate for mathematics, physics, general and applied chemistry, etc. Some of them have set up teachers' commissions to provide a forum for the exchange of experience especially for secondary school teachers. In other fields, e.g., in the teaching of modern languages, teachers and researches jointly set up international organizations based on the cooperation of national associations.

Also active are national teachers' unions which in recent decades have united on an international level and have set up large and influential organizations such as the World Confederation of Organizations of the Teaching Profession, the World Federation of Teachers' Unions, etc. By their annual congresses, regional conferences and other activities these organi-

zations secure the regular exchange of information on questions related to the position of the teacher,etc. They mostly also discuss the problems of broader policies in the field of education, such as the participation of teachers in planning, and professional questions, e.g., how to improve education for international understanding. For the practitioners they thus represent a forum on which they can take part in international developments.

At the level of n o n - g o v e r n m e n t a l organizations[2-32] the International Council on Education for Teaching (ICET) has world-wide competence. The Council was founded in the UK in 1953 and was later (in 1968) transferred to the USA. It provides a broad forum for the international presentation of experience at annual world assemblies; proceedings from these assemblies contain information and comparative material, e.g., from the 29th assembly on training for the teaching profession held in Rome in 1982.

The Association for Teacher Education in Europe (ATEE) was set up in 1976 on the basis of volontary participation related to the specialized capacity and interest of institutions of individuals. Its mission is to strengthen closer and direct contacts between institutions for teacher education and specialists at all educational levels throughout Europe, to stimulate general discussion on inter-relations between changes at all school levels and teacher education, to contribute towards providing information on innovations in the field of educational technology in different field and to inform members on inter-governmental measures which could facilitate the exchange of information.

The ATEE Secretariat is in Brussels. The Association publishes the periodical European Journal for Teacher Education (initially the Revue ATEE Journal). Specialized activity is conducted on the basis of ATEE working groups (see also Section 3.4).

A broader forum is the ATEE Conference on a topical subject convened to a different European country every year, e.g., on the demands placed by the changing school on teacher

education (Linz, Austria, 1984)[4-1]. The said conference drew the broadest European participation so far; apart from the ATEE members from West European countries it was also attended by observers from the socialist countries (Bulgaria, Czechoslovakia, GDR, USSR, Yugoslavia).

Of the i n t e r - g o v e r n m e n t a l organizations[2-32] operating in Western Europe a forum for discussing questions of interest for educationalists was provided by the Centre for Educational Research and Innovation (CERI) of the OECD, this within the framework of the project of research and implementation of the innovations in in-service teacher education, e.g., the seminar in Philadelphia in 1976, the 1980 Paris conference. This problem area has also been followed up by the seminar held by the Documentation section of the Directorate of Education, Culture and Sport of the Council of Europe in Strasbourg, 1980. These activities initiated a number of case, comparative and survey materials.

In the Member States of CMEA teachers also have their international forums. Thus, for instance, the 3rd Conference of Educationalists from the socialist countries held in Warsaw in 1977 discussed the role of the teacher in the formation of the personality of the young generation in an advanced socialist society. The Centre of Scientific Information of the Polish Institute for Teacher Education (IKN) published a collection of abstracts related to the subject based on cooperative selection of publications from the national production of the socialist countries.

Within the plan of scientific and research cooperation between the socialist countries in the field of educational sciences and school practice the Czechoslovak Central Institute of In-service Training for Educational Personnel organized an International Symposium of Socialist Countries on the main trends in the research of the contents and methods of the in-service education of teachers (Prague 1983)[4-31] at which leading specialists exchanged experience and established further contacts.

The European Information Centre for Further Education

of Teachers in Prague with participation of Unesco (see Section 1.4) provides roughly once a year the opportunity to specialists from the countries of the European region to meet for an exchange of information, for instance on the practical application of educational sciences in the teaching practice (Prague 1979)[4-27] and others.

All these opportunities together with the specific traits of the development of specialist communication in the social sciences in general and in the field of education in particular, influence the procedure and forms of information cooperation at the international level.

On the basis of traditional bilateral and multilateral international exchange of publications, international inter-library loaning services and bibliographic cooperation between educational libraries attention in the field of the exchange of information has mainly been oriented to the coordination of educational documentation whose main goal is to:

- acquire from the participating countries representative selections from their national production
- to limit multiplicity of information processing
- to secure the general availability of sources in the respective regional network.

This cooperation is being implemented mostly among states which are associated either by the same language or geographically or by political and economic grouping as will be demonstrated below.

1.2 Systems of Educational Information in the European Region[x)]

Computerized systems of educational information have been built for twenty years now. The American national system ERIC has gained broader international competence. It has been followed up by the West European multilingual system EUDISED. The traditional cooperation of German speaking West European countries implemented in the DOPAED network is gradually introducing services from its data base in its decentralized network. The PEDINFORM system which is being established in close cooperation of the socialist countries is gradually overcoming the variety of national languages by computerization. Intergration efforts are manifest in the European region, especially thanks to the support given by Unesco-IBE and on the initiative of the countries of the socialist community as will be shown below.

1.2.1 ERIC (USA)

This system began to develop in the early 1960's on the basis of the Educational Resources Information Center (ERIC) in the United States of America[1-11]. Services based on computerized data processing were put into operation in 1966. At the beginning the system was oriented to accessing sources on educational research. Gradually it was broadened to other types of printed materials such as journal articles, documents, syllabi and curricula, conference proceedings, bibliographies, etc.[xx)] From the point of view of provenance it has included in its acquisition policy sources on education published in English no matter where they had been published and thus became a system with i n t e r n a t i o n a l c o m p e t e n c e[1-17].

The institutional structure of the ERIC network consists of the centre at the National Institute of Education of the

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x) i.e. including USA and Canada in the spirit of the 1975 Helsinki conference

xx) apart from this there is in the USA the NICEM system for audio-visual (non-book) educational media

US Department of Education, the Central Processing and Reference Facility, 16 specialized cooperating clearinghouses, auxiliary commercial Document Reproduction Service providing microfiche and hard copies and the ERIC publishing service for abstract journals - Current Index to Journals in Education (CIJE) and Resources in Education (RIE).

The clearinghouses have their information scope defined and updated by contract for five year periods. With regard to this scope they are divided into three types:

- by school level (e.g., pre-school education, higher education)
- by field of education (e.g., science and mathematics, languages and linguistics)[x)]
- by problem area (e.g., urban education, education of exceptional, i.e., both handicapped and gifted children.

These clearinghouses operate exclusively within scientific institutions, especially universities and associations which in the respective field have the highest specialized and thereby also documentation capacity. The individual clearinghouses provide selective services within their competence and within the ERIC network they select, acquire and bibliographically cover relevant sources for the central data base.

The technical processing is secured by the Processing and Reference Facility. The system as such is aimed at contributing to the introduction of innovations into the educational process broadly using the results of educational research and development and generalized knowledge from educational practice.

Next to the bibliographical data base the ERIC system also stores primary sources which are acquired from the 800 permanent supplier institutions and 3,000 occasional specialized institutions. The ERIC clearinghouses make the selection of sources which enter the system at a ratio of roughly 1:3. Annually prepared are some 35 thousand abstracts

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x) besides information services are also provided by AIM/ARM, the data base of vocational and technical education which are linked to professional application in practical fields

from non-periodical sources and 32 thousand entries of article bibliography from 700 titles of specialized journals; approximately 30% of the problem area is drawn from educational research. Indexing according to the ERIC Thesaurus and the computerized processing of information allows the multi-aspect retrieval either in the on-line mode, in form of retrospective searches, or SDI batches on request.

Primary sources are provided to users on microfiche or to specific order on hard-copy. Subscribers to the information publications of ERIC system comprise more than 3,000 individuals and institutions in the USA and 300 abroad; as for the annual capacity of services the estimate is 6.6 million responses to users, of this 3 million to teachers; there are 3 thousand terminal queries through the mediating agency DIALOG, the annual production in the field of primary sources is 17 million microfiches. In the USA this system is the second largest in capacity following MEDLARS, the medical information system.

The ERIC system is striving to stay at the peak of current information science and technology, it provides methodological assistance within its scope and furnishes services to users at all levels (researches, educational administrators and teachers); it organizes exhibitions, conferences and user training, especially training of librarians and information specialists as mediators of information in user institutions which it also provides with numerous aids. Special attention is given to school librarians and teacher students. Methodological events also include demonstrations in the use of educational information in the on-the spot problem solving of educational situations.

The international impact of the ERIC information system may be characterized from two aspects: the use of its services and input in its information file. I n p u t is given by the language of the publication. Insofar as an national institution intends to enter the international forum with the published results of its activity through the ERIC system it should issue its production in English and send it to the res-

pective clearinghouse according to its specialization or directly to the ERIC processing facility.

As concerns the u s e of ERIC services in Europe there is terminal communication, e.g., in FRG, Italy, the Netherlands, Sweden, the United Kingdom; of the international organizations, e.g., in Unesco-IBE.

In specialized fields the individual ERIC clearinghouses are involved in bilateral international cooperation with institutions with which they exchange bibliography and the results of their information analysis. The Clearinghouse for Teacher Education in Washington[2-12] is involved in such an exchange with the European Information Centre of Charles University for Further Education of Teachers in Prague (see Section 1.4).

The said clearinghouse operates within the American Association of Colleges for Teacher Education (AACTE) and its scope includes information services related to all problems regarding teacher education. Its quarterly information bulletin moreover acquaints ERIC users from the ranks of teachers at school of all levels with ways of searching information sources and also guides them, which is very important, how to acquire information skills. For interested groups of teachers, librarians, students, etc., it organizes free of charge seminars and workshops which are profiled according to the needs of the different groups of users and information mediators and usually include basic instructions for users of ERIC services.

1.2.2 EUDISED (Council of Europe)

The Conference of West European Ministers of Education in Rome (1962) adopted the resolution stressing that international cooperation in the field of education may only be implemented on the basis of organized exchange of information and recommending that a regional documentation centre be set up. In 1964 this task was assumed by the Council of Europe[x)] which established the Documentation Centre for Education in Europe (DCEE) in Strasbourg, France[1-3].

The EUDISED project was launched in 1968. The actual implementation of the system was preceded by a preparatory stage. The first report on user studies in education and the feasibility of an international survey of information needs in education was published in 1971 and was followed up by others, e.g., in 1975 by a survey of the situation in six West European countries. They showed that the communication process in the field of education has two special characteristics as compared with the communication process in other field of science and technology, namely:

a) the specificity of this field is beyond any doubt yet on the other hand it has relations with all other aspects of learning because it is linked up not only with all subjects of study but also with a number of marginal disciplines of pedagogy, such as is for instance the theory of cognition, the psychology of learning, the sociological aspects of education, etc.;

b) the field of educational documentation is not limited merely to one type of communication media. It is therefore necessary to disseminate information not only on books but also on non-book materials and even on non-literary materials such as audio-visual aids.

From this follows the need of developing services and a network capable of accessing information on any type of communication media and on any field or aspect of education. The system functions on the basis of the network of agencies established under contract in the participating countries.

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x) Next to this and under a Decision taken by the Ministers of Education of the Member States and of the Council of the European Community education information network named EURYDICE was established in 1976.

The range and efficiency of this decentralized network depends on the level of development of educational information in these countries and on the support provided by the national agencies involved in the system. For their information DCEE published the News-letter /Faits nouveaux/ on educational legislation, policies, development, etc. in the individual countries.

The mission of EUDISED system as defined in the project, is to meet the information needs of teachers, educational administrators, specialists in the field of educational sciences and the broad public, i.e., needs related to educational research and development, specialized literature on education, curricula and teaching/learning aids, educational policy, legislation and statistics.

In the year 1974 a parallel trilingual EUDISED Thesaurus (English-French-German)[1-14] was published which was compiled at such general level as to be able to abstract from national specificities. It thus became able to express certain joint phenomena in the field of education but on the other hand it was considered too cumbersome to depict concrete educational reality within the national infrastructure.

Certain national applications then became all the more interesting, e.g., in the Netherlands the national thesaurus ADION[4-9] which has been derived from the EUDISED Thesaurus.

Of late attention on the development of the thesaurus has been focused not only by the respective bodies of the Council of Europe but also by the Commission of the European Communities. In 1984 the EUDISED Thesaurus was published in the multi-lingual version (English-French-German-Spanish--Dutch-Danish-Italian-Greek-Portuguese) and other versions are being prepared (Swedish-Norwegian-Finnish-Serbo-Croatian).

The EUDISED system has incorporated in its scope three subprojects. Two of them have so far not reached operational stage. In 1976 the DCEE published the experimental issue of EUDISED AV-Bulletin which recorded information on

audiovisual aids specific for the field of education. However, fund were not found within the Council of Europe for its full implementation. DGEE published directories of institutions producing the said aids (1980, 1983).

On the initiative and with the support of the Austrian Ministry of Education an experimental issue of the EUDISED EP-Bulletin was published, i.e., a bibliography of articles published in educational periodicals, on the basis of anhotations made in 11 cooperating countries. The Council of Europe was also not able to implement its further operation. In 1983 the working group of the EUDISED network emphasized the importance of this cooperative documentation activity based on the direct exchange of machine readable media between national centres of education information.

Only one of the three projects was fully implemented, namely the EUDISED R+D Bulletin, i.e., a bibliography of reports on research and development. Next to the publication of this abstract journal the system has since 1976 been providing tape recorded searches and in 1984 it introduced a terminal on-line service through the European Space Agency (ESA) to which 17 members of the Council for Cultural Cooperation and Yugoslavia contribute.

Experience with the abstract service related to research reports was generalized on the basis of an inquiry (1978)[2-10] whose results showed the structure of respondents by

- country ranking: Switzerland, Austria, Belgium, FRG, United Kingdom, the Netherlands, Norway, France, Ireland, Italy, Sweden, USA, Denmark, Spain, and others;
- user categories: educational research 60 %, teachers 37.5 %, school administration 23 %, educational libraries 23.5 %, teacher students 8 %, others 5.5 % (some of them penetrate into each other),
- suggestions for the improvement and dissemination of the Bulletin to evercome language barriers (insofar as is possible on the basis of English); with regard to search strategy to use the subject index based on descriptors.

The subregional (West European) system of educational information EUDISED considers teachers as its priority users

immediately ranking after researchers but it cannot serve the everyday needs of teachers' work in class. It only provides national agencies with the possibility of mediating, within the scope of their networks, information which could be significant for teachers.

Through DCEE in Strasbourg the EUDISED system secures also external links even outside the participating countries. It maintains informal contacts with the ERIC system, through IBE it has connections with Unesco (see Section 1.3) and it exchanges information with institutions also in the socialist countries, e.g., in the field of in-service teacher education with the European Information Centre of Charles University for Further Education of Teachers in Prague (see Section 1.4).

1.2.3 DOPAED (German language area of Western Europe)

DOPAED is a documentation association in the field of education (Dokumentationsring Pädagogik)[1-17] which was established in 1964 as the voluntary association of cooperating institutions in the German speaking West European countries (FRG, West Berlin, Austria, the German speaking area of Switzerland).

This association has set itself the task to access the literature and materials, to organize communications and to provide information in the interest of upgrading education. All this is done on the basis of a division of labour. The acquisition of sources and bibliographic covering are categorized into problem areas by the specialization of the member institutions: science of education, pre-school education, school pedagogy, special education, out-of-school education, vocational education, adult education and further education, educational research and planning, the research of children and youth, didactics and teaching subjects, audiovisual media and aids for school and out-of-school education.

Within the network of cooperating institutions some 40 periodic information services are provided; special bibliographies are compiled by topics and by type of sources, for instance, syllabi and curricula, teaching aids. The periodical "Bibliographie Pädagogik" is published jointly, its content and indexes correspond to the centrally processed bibliographic data base. The state and development of computerization differ from one member institution to another and only some operate on-line (see below). Nevertheless the annual production is around 70 thousand titles recorded according to the common format. Continuously excerpted are some 500 titles of journals, also books and instructional media.

The users of DOPAED services may rank from among teachers of all categories and fields, teacher students and specialists for in-service teacher education; the individual mem-

ber institutions moreover provide information to their own researchers and other specialists and to the other units within the network. Services are provided on request in the specialized scope (or with mutual reference), free of charge - overheads are paid for computerized retrieval.

Membership in the DOPAED Association is open to institutions active in the field of educational information and documentation. The type of membership follows from the cooperative duties which the given institution assumes. Regular members should dispose of adequate documentation capacity, they must observe the standards and rules adopted by the system and participate in joint projects (next to bibliography there are also other documentation intents). Extraordinary members participate in the exchange of information inside the association.

Information services, including both SDI or on-line search and specialised information periodicals, in the Federal Republic of Germany are provided, for instance, by the following institutions and/or systems:

- Deutsches Institut für Internationale Pädagogische Forschung /German Institute for International Educational Research/, Frankfurt a.M. - a database on multicultural education /INTERLIMES/
- Hessisches Institut für Bildungsplanung und Schulentwicklung /Hesse Institute for Educational Planning and School Development/, Wiesbaden - Hessisches Literatur-Informationssystem Pädagogik /HELP/.

The following institutions cooperate in other areas within the Association:

- Amtsbibliothek des Bundesministeriums für Unterricht und Kunst /The Library of the Federal Ministry of Education and Art/, Vienna
- Schweizerische Koordinationsstelle für Bildungsforschung /The Swiss Coordination Centre for Educational Research/, Aarau
- Max-Planck-Institut für Bildungsforschung /Max Planck Institute for Educational Research/, West Berlin
- Unesco-Institut für Pädagogik /Unesco Institute for Education/, Hamburg.

The DOPAED Association publishes not only bibliographies but also methodological aids, such as the Thesaurus Pädagogik

in German, instructions for indexing, research reports, e.g., on the development of computerized data processing. The individual centres may draw on the information file and on products of documentation work of the whole system and may selectively provide information to users within its competence. They need not diffuse their capacities for recording the sources of all related fields which are covered by the respective institutions within the network.

For ensuring the fully on-line information system the DOPAED would need adequate funding to cover personnel and material costs related to the fulfilment of the following tasks:

- central coordination and consultancy in the construction and development of the decentralized network of institutions for information processing,
- the further development of the existing base and the achievement of full compatibility for information collection, processing and retrieval,
- coordination through the exchange of data processing programmes which are available as well as the rationalization of data processing and the project design of information services,
- the incorporation of foreign data bases, i.e. selective data inclusion,
- the continuous research and analysis of information needs and information use, a service for training information users,
- the building and equipping of a decentralized system of information distribution on the basis of the existing network,
- training and further education of personnel of information and documentation centres of the DOPAED system.

In the development of the centrally coordinated and in a decentralized way structured DOPAED educational information network the following factors are taken into consideration: the interests of the educational policies of the participating countries, the interests of information policy with regard to the existing systems and finally the principles of data protection and copyright. Also observed are international integration trends, especially as to cooperation with

EUDISED system[1-14] as well as the possibilities of linking up with other branch information systems at national and international levels. Inside the DOPAED system relations are solved between the subject principle of the division of labour in information processing and the territorial principle of an even information distribution such that they can serve teachers in the whole subregion of West European German speaking areas.

1.2.4 PEDINFORM (socialist countries)

The cooperation between countries of the socialist community in the field of educational information is based on the traditional international exchange of publications and educational materials and exchange of national educational bibliographies between central educational libraries. Since the mid-1970's new forms of cooperation have been developing on this basis, e.g., the joint issuing of information publications, bilateral and multilateral research projects, the building of a joint classification system and the solution of other problems related to the establishment of a unified computerised data base.

The system of educational information which coordinates its work with the International System of Social Sciences Information (MISON) - one of the branch subsystems of the International System of Scientific and Technological Information (MSNTI) has not yet been directly integrated in these systems. It observes the standardisation and unification documents of the International Centre of Scientific and Technological Information (MCNTI) in Moscow, namely as concerns the Unesco international programme CDS/ISIS (see Section 1.3.1).

In some socialist countries the institutionalised base of educational information is assigned to educational research, e.g., in USSR and GDR to Academies of Pedagogical Sciences. In this connection and on the initiative of consultative meetings of directors of central institutes for educational research as well as in harmony with the recommendations of consultative meetings of Ministers of Education of the socialist countries consultative meetings of directors of national centres (NC) of educational information are convened.

This consultative and coordination body has proved to be a useful institution for developing the multilateral cooperation for joint action towards other international information programmes and for building a common system. It deals with coordinating procedures in national educational information networking and their international interlinkage, in carrying out joint research projects, in the exchange of publications and documentation, in the compilation of joint information languages and finally in the joint issuing of information publications.

The conclusions of the f i r s t consultative meeting held in 1975 in Potsdam, GDR, initiated the issuing of the joint abstract bulletin in form of an annual review under the title "Pedagogika i narodnoje obrazovanije v socialističeskich stranach" edited and published alternatively by NC always in one country according to an agreed plan. It is published in two series:

- the survey series summing up information on the published results of educational research and on the development of educational systems in the individual countries for the given period;
- the thematic series which every year is oriented to one topical problem area, this in a representative selection from the national production of the cooperating countries.

The s e c o n d consultative meeting held in Budapest in 1976 evaluated the state and development of bilateral and multilateral cooperation and the conditions of creating a unified system of educational information, and recommended to pay attention to the following tasks (under the responsibility of the respective NC):

- a comparative study of the state of national networks of educational information (Bulgaria, Czechoslovakia),
- analytical methods of content analysing of information sources, unified bibliographic description and classification and methodological recommendations (USSR, Czechoslovakia),
- the construction of the information languages (GDR, USSR, Czechoslovakia),
- the compilation of a multi-lingual educational glossary (Hungary, Poland),

- the study of the role of educational information in raising the efficiency of educational research and school practice, the place of educational information in the pre-service and in-service education of teachers (Poland, Bulgaria).

The t h i r d consultative meeting held in Warsaw in 1978 had at its disposal documents from the 36th session of the International Conference on Education (Geneva 1977) and namely Recommendation no. 71 relating among others to the support given by Unesco to the development of national networks of educational information institutions and to deepening international cooperation in this field. Experience was evaluated with the fulfilment of joint tasks and a programme of cooperation was adopted for the period 1979-1983 oriented to proceeding with work within the above mentioned major problem areas with special regard to the following tasks:

a) broadening publicity for the joint abstract bulletin,

b) setting a deadline for the compilation of an educational classifier for 1980 and a thesaurus for 1982,

c) the review of the first variant multi-lingual educational glossary for 1980,

d) the filling in of a questionnaire (compiled by the Bulgarian side in 1978) by all NC involved for comparative analysis of the national networks with the aim of elaborating the project of a unified system of educational information.

Participating in the research were 12 institutions from 7 countries (Bulgaria, Cuba, Czechoslovakia, GDR, Hungary Poland, USSR). Its results were analyzed[1-21] both descriptively by countries and comparatively with regard to the following aspects: development and tasks of educational information; profiles of NC; structure of national networks; services to users; information files; methods and means of information processing; research, training of personnel and international cooperation in educational information. This part was enlarged by chapters on the prerequisites for the construction of a unified system of educational information in the socialist countries, and the international aspects of its development with regard to existing international information systems and Unesco programmes.

A significant meeting of the representatives of the NC of educational information from most European countries of the socialist community (Bulgaria, Czechoslovakia, GDR, Hungary, Poland and USSR), Cuba and Vietnam was the International Symposium on providing information to the science of education and school practice which was held by the Academy of Pedagogical Sciences of the USSR within the plan of international scientific and research cooperation between the countries of the socialist community for the years 1981-1985 (Moscow 1983)[4-14]. The plan adopted by the 9th consultative meeting of directors of central institutes for educational research of the socialist countries (Sofia 1981) was then specified by the 10th consultative meeting in Havana, 1983.

The programme of the meeting was prepared by the Soviet NC ("Škola i pedagogika" OCNI) in Moscow and its results represent a qualitatively higher level of the construction of the common system of educational information in the socialist countries[1-1]. The symposium defined priority and topical problems of international cooperation in the present stage, it considered questions whose solution will contribute to the expansion and deepening of this cooperation between the socialist countries and to the construction of an international system. In this connection the discussion was oriented to the draft project of the common PEDINFORM system which was presented by the Czechoslovak delegation[1-12]. The meeting also assessed the purposefulness of setting up an initiating group made up of representatives of Czechoslovakia, GDR and USSR whose results in the field of the computerization and application of the educational thesaurus and classifier[1-2] were approved and were transmitted to the working commissions.

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The development and integration of the said international systems of educational information is promoted by the mutual recognition of involved parties. In the European region favourable conditions have been established for allround exchange of information, namely after the 1975 Helsinki Conference on Security and Cooperation in Europe where the participating countries committed themselves "to contribute to the further development of the exchange of knowledge ... and to

support the exchange of experience with teaching methods as well is the exchange of learning materials".

The representatives of international organizations and of educational information NC in the European countries implement this exchange at the European colloquy called E D I C O organized on the Czechoslovak initiative with Unesco and IBE participations with the aim of promoting the exchange of experience with the construction of national systems of educational information and the development of international cooperation. The first colloquy was held in Prague in 1974[4-5].

E D I C O - 2 held in Bratislava in 1977[4-6] initiated the document "Programme of Cooperation between NC of Educational Information in the European Member States of Unesco" and the Recommendation for its implementation which was taken into consideration by the 36th session of the International Conference on Education (Geneva 1977).

E D I C O - 3 held in Prague in 1980[4-7] recapitulated how in their cooperation the participating countries had observed the Recommendation no. 71 of this Conference. It was recommended to national bodies in the Unesco Member States and to IBE in Geneva certain measures to be taken for the support of the development of national and international systems of educational information, namely as concerns technical equipment and personnel training, including the training of users of information services.

E D I C O - 4 held in Bratislava in 1984[4-8] has drafted a long-term programme of international cooperation and exchange which among others recommends:

"- in the spirit of the principles adopted at the Helsinki and Madrid conferences to deepen further the exchange of educational research data (including, for example the dissemination of EUDISED data, free of charge)...

- to extend the creation of selective and directed information concerning those problems that are being or will be solved within the school systems of European states; to set up expert teams of national information centres to help within the exchange of this type of information...

- to stimulate effective cooperation between school-oriented

and adult education information and on national and international levels...

- to develop purposefully the automation of information systems, to consider the automation as a process of achieving improvement and high efficiency of information activity as well as a process speeding up the international exchange of information; the exchange of projects from this sphere among the national and international information centres is to be considered as very important;
- the solution of open questions in the field of terminology and standardization; the participants are aware that these questions should be solved with absolute priority in the interest of the transbroader data-flow and therefore recommend the installation of international workgroups to tackle these problems;
- appraising the significance of EDICO colloquia in the development of international exchange of information and cooperation of national and international centres of the states of European region, the participants of Colloquium EDICO-4 consider it useful to continue the organization of EDICO colloquia and involve gradually into their activities the information worthplaces of Member States of other regions, mainly developing states;
- in the period between individual sessions of colloquia to organize seminars of experts of national information centres to survey and to solve topical problems and thus to participate in the preparation of the programme of colloquia;
- the participants of the Colloquium after surveying the proposals submitted and ensuing from the long-term programme of coopefation of national information centres suggest that the programme of the EDICO-5 session (to take place in 1987) should encompass the following themes:
  - the innovation and developments since EDICO-4 attained at the setting-up of national and international systems in the field of education;
  - the training of staff in the field of information and education of users (managers, researchers, teachers, pupils and students) to work with information;
  - the creation of prerequisites in standardization and normalization for the better functioning of the international exchange of information through computer technique."

The participants in EDICO-4 appreciated the great contribution made by Unesco and IBE to the exchange of information and to the creation of national information centres and international information systems, the importance of their coordinative and methodic activities within this sphere, their contribution to the development of international understanding and peaceful cooperation among the nations of Europe

resulting from the Unesco programme.

The concrete recommendations have been then addressed to:

a) the Czechoslovak Commission for Unesco - to draw attention of national commissions for Unesco to the Final Report and Recommendations adopted by the participants of the European Colloquium EDICO-4,

b) the Director General of Unesco who is being asked to consider the possibility of passing the Report to the Ministers of Education of the Unesco Member States in Europe so that they may examine the possibilities to implement the Recommendations at the national level and effectively promote the international exchange of educational data and cooperation of national information centres.

1.3 Unesco and the Role of International Bureau of Education

1.3.1 Unesco General Information Programme

In the field of scientific and technological information the 1970's saw an unprecedented development at national level thanks to the introduction of the Integrated Scientific Information System developed in 1965 by the International Labour Organization (ILO) and the launching of the inter-governmental cooperative programme UNISIST under Unesco auspices[1-25]

U N I S I S T was founded in 1972 following four years of intensive study carried out within the framework of Unesco and the International Council of Scientific Unions (ICSU). The UNISIST programme has four main areas of activities:

- information policy and planning,
- the development of national information infrastructures,
- standardization and unification of the exchange of information on an international scale
- education and training of information specialists as well as information users.

The concept of Unesco for international information cooperation is founded on the following postulates:

a) Every participating state is through its national institutions responsible for the identification and collection of information produced inside its frontiers and for the selection of information which is to be presented in the international system.

b) Information acquired by the international system is processed and made available to all participating countries on an equal basis this through mechanisms which are under general supervision, usually by an international governing institution.

c) Every state, again through its national institutions selects from the international system information which it needs and is responsible for its use in the national scale.

In order to implement this broadly based international information cooperation UNISIST has the long-term aim of establishing a flexible world network of information institutions, systems and services based on voluntary cooperation

which would secure equal access to all information, especially with the aim to help the developing countries meet their information needs in the field of science and technology.

The 18th session of the Unesco General Conference (1974) adopted the programme of upgrading information systems also in the field of the s o c i a l s c i e n c e s, this within the UNISIST programme. In the European region the implementation of agreements on information cooperation in the social sciences also involves MISON system which has become the active initiator of meetings and discussions, e.g. in Vienna (1977).

The 19th session of the Unesco General Conference (1976) adopted the Unesco General Information Programme (PGI) with an inter-sectoral aegis for the purpose of concentrating the capacities and coordinating the activities in the field of specialized information, documentation, libraries and archives. Its organ is the Intergovernmental Council for PGI operating within the Unesco Secretariat in Paris. Within PGI UNISIST activities are implemented.

In 1977 the Advisory Committee of the Unesco Director General for PGI was established with the aim:

- to collect the changing demands and trends of world user associations in relation to information for the development of education, science and technology, culture and communication;
- to evaluate the relevancy and adequacy of PGI implementation in relation to the stated needs and trends.

The Intergovernmental Conference on Scientific and Technological Information for Development "UNISIST II" held in Paris in 1979 dealt with the plan of the future development of PGI which became a significant stimulus for broadening international information activities. In their broader context, and especially since the Intergovernmental Conference on Scientific and Technical Development (Vienna 1979), these activities are supported within the framework of the international project of the Global Information Network in which Unesco plays a significant role[1-25].

Within the second Unesco Medium-Term Plan for the years 1984-1989 PGI is responsible for most tasks incorporated in Major Programme VII "Information Systems and Access to Knowledge". The priority aspects are as follows:
- the development of information infrastructures
- the education of information workers and information users. (As concerns the latter it is discussed in detail in Chapter 3.) The first aspect is implemented through methodological assistance in the implementation of national information policy. In 1984 57 National Centres and 52 National Committees for cooperation with the PGI were established in the Unesco Member States. This programme also has close linkage with specialized non-governmental organizations, namely with FID and ISO (in the field of classification) and endorses IFLA activities, namely in the programme of the Universal Availability of Publications (UAP).

Within PGI international methodology, directives, standards, principles and technologies for information processing and transfer are elaborated by Unesco, namely using modern computer and telecommunication technologies and their application to the development of the compatibility of information systems.

One of the effective mechanisms of Unesco for interconnecting information networks is the introduction of the Computerized Documentation Service, as a component of the Integrated Set of Information Systems, i.e., its highly advanced version (CDS/ISIS). The CDS/ISIS programme was introduced by all UN organizations and is gradually being introduced by other international organizations and national institutions of the Unesco Member States[1-19].

Inside the Unesco Secretariat the programme was applied and methodologically developed in the Division of Library, Archives and Documentation Services (LAD) which in the interest of facilitating international exchange provides it at request as a software package to institutions in the Unesco Member States. On the basis of the conclusion of a transfer agreement Unesco trains the staff of the respective institu-

tion helps with the installation of the programme and further, during its independent use, it maintains contacts with the CDS/ISIS users in order to secure maintenance and updating of the system, this through: sending newsletter, visits by Unesco experts, technical consultations (by post or telephone), shipment of technical and other documentation following up on the basic programme.

In 1982 the CDS/ISIS programme was already introduced in a number of countries within the European region, e.g., in Bulgaria, Canada, Italy, Poland, Sweden, USA, USSR and Yugoslavia. International organizations which introduced it included the International Centre of Scientific and Technological Information (MCNTI) in Moscow. As concerns UN agencies information is processed according to the said programme by FAO and WHO as well as by IBE, the Unesco specialized institution (see Section 1.3.2 below).

In the S e c t o r o f E d u c a t i o n Unesco devotes attention to the information problem area within the programme: "Development of Exchanges of Information on Education" . The tasks of this programme within the framework of the plan for the period 1984-1989 are the following:

- Contributing to the strengthening, in Member States, of capacities for compiling data, including statistical data, and for using modern methods of information processing and dissemination.
- Continuing, in accordance with the recommendations of the 36th session of the International Conference on Education, with the setting up, of a world information system on education, based on the development of national information and documentation services and international and regional information networks.
- Facilitating access to documentation and research findings in areas regarded by Member States as having priority.

The following results are expected of the said intents:

a) Rationalization of methods, techniques and standards governing the circulation and exchange of information relating to education at both national and international levels.

b) A better match between information and the needs of the various categories of users.

c) Better use by Unesco and Member States of information and documentation in the context of the various programmes and subprogrammes devoted to educational action.

Most Unesco activities related to educational information are implemented by PGI within the plan of the International Bureau of Education (IBE) in Geneva.

1.3.2 Information Mission of IBE

The International Bureau of Education (IBE)[1-8,9] in Geneva is a specialized institution which follows up in the information field on the activity of the Unesco Education Sector by supporting the development of the international network of national institutions for the dissemination of educational information and orientating the construction of its Documentation Centre as the central data base of this network.

As early as in the period 1971-1975 the IBE Council oriented its activity in the following directions: the development of the Cooperative Educational Abstracting Service (CEAS); publishing and disseminating the information bulletin, library acquisitions, directories, etc.; providing information and documentation services where contacts have gradually been established with some 500 institutions in Member States; the establishment of a computerized bibliographic data base and the compilation of the Educational Thesaurus. At its 11th session the IBE Council (Geneva 1975) declared that the role of IBE is to strenuously work for the establishment of a world system for the exchange of educational information. This programme has observed three main principles[4-12]:

a) networking
b) selectivity
c) the use of modern technology.

ad a) As concerns n e t w o r k i n g, next to international and regional systems the network should consist of national centres of educational documentation, research and information. In order to prevent undesirable centralization IBE supported direct links between the individual national institu-

tions as well as direct linkage between them and the respective Regional Offices and specialized Unesco institutions and with other international organizations, e.g., the Documentation Centre for Education of the Council of Europe, etc.

IBE was encouraging the Unesco Member States to participate in international developments in the field of educational information; at the same time it found that the national infrastructures in certain countries are not prepared for these tasks. This problem was discussed at the Council sessions which in the interest of improving the state of affairs submitted a resolution to the Unesco General Conference (see below).

ad b) As concerns the second principle, i.e. s e l e c t i v i t y , in international acquisition IBE must counter the problem of the influx of vast quantities of documentation. It has therefore had to adopt criteria of selection and collects mainly publications and documents related to educational policy and educational systems (innovations, reforms, etc.). To support this intent it established in 1974 the International Educational Reporting Service (IERS) initially funded from extra-budgetary sources and later incorporated in the regular IBE programme. Within this programme IBE processes and publishes the periodical annotated bibliography Awareness List which is disseminated to cooperating institutions and to the developing countries (a total of 1200 subscribers).

ad c) On the basis of the third principle IBE using m o d e r n t e c h n o l o g y for processing educational information has built several data bases. In the years 1978-1981 they were gradually introduced or transferred to the new system of computerized data processing according to the CDS/ISIS programme. The aim of IBE is to increase the efficiency of information retrieval and to allow better interconnection within the network. This is also served by the Unesco/IBE Educational Thesaurus. These innovations have been stimulated by the Recommendation mentioned below.

IBE convenes the International Conference on Education

(ICE). The Conference has been convened since 1934 biennialy to alternate with the sessions of the Unesco General Conference. Next to the general discussion on the major trends of the development of education in the individual Unesco Member States the ICE always deals with certain topical questions in detailed discussions. In addition to the opportunity which it provides for meetings and the exchange of information at top level of national educational authorities, the ICE is also a venue at which national reports on the current state of development of the educational systems in the respective countries and on the state of the subject area which the respective session of the ICE is discussing are collected and studied. These materials then become the basis for review publications and comparative studies such as "International Yearbook of Education", a series "Studies and Surveys in Comparative Education", etc.

On the initiative of the IBE Council the 19th session of the Unesco General Conference in 1976 adopted the Resolution relating to the information problem in the field of education to be dealt with by the folowing ICE. The 36th session of the Conference held in Geneva in 1977 thus devoted its attention to the "Problem of Information at the National and International Levels which Is Posed by the Improvement of Educational Systems"[4-35].

The IBE Secretariat submitted to this ICE session a document "International Information Networks and their Role in the Transfer of Educational Experience"[1-26]. It was to serve as the basis for assessing the given subject area. It was stated that in the field of education there does not exist any uniform information system. Factors causing this lag behind other fields of human activity and learning were considered as follows: the range of the whole sphere of education, the number of people participating in the educational process, their differentiation, and the linkage of the educational system with the cultural and political development of the given society.

At the close the 36th session of ICE adopted and sub-

mitted for consideration to the respective national bodies in the Unesco Member States and to international organizations Recommendation no. 71 to the Ministries of Education concerning the problem of information at the national and international levels which is posed by the improvement of educational systems[4-17]. This Recommendation contains both the main principles of the development of the system and services related to educational information and suggestions of practical measures.

a) The following p r i n c i p l e s were stated in the first area:

- Recognition of the significance of the information component in the decision-making process;
- Cooperative networking;
- Standardization;
- Professionalization;
- International cooperation.

b) The second area contained suggestions of p r a c t i c a l m e a s u r e s a t t h e n a t i o n a l l e v e l for Unesco Member States, mainly relating to policy and legislative provisions, services and programmes, status and training of educational information personnel.

c) Recommendations for r e g i o n a l a n d i n t e r n a t i o n a l c o o p e r a t i o n adopted by the 36th session ICE called upon all relevant national, regional and international authorities, organizations and agencies to cooperate in improving exchange of information so as to establish during the next decade a world information network in education. Aiming at this the Member States and their appropriate authorities should endeavour to corresponding measures.

In the implementation of all these recommendations Unesco activities are followed up by other ventures. Recommendations of its General Conference, as well as ICE recommendations are the subject of discussions at regional conferences of Ministers of Education of Unesco Member States, e.g., in the European region they were discussed by the 3rd Conference of Ministers of Education held in Sofia in 1980. The decision taken by these conferences are significant binding documents for the activity of the respective national educational bodies and institutions.

The 36th session of ICE further recommended that Unesco should play a decisive role in building a World System of Educational Information, mainly based on regional subsystems and subregional organizations which would effectively support and complete the activity of national networks.

The real base for the establishment of such a world information system in the field of education was laid by the 21st session of the Unesco General Conference in Paris in 1978 which within the framework of PGI approved a number of concrete measures for the development of international co-operation in the field of educational information in the plan and budget of IBE with the aim of establishing a world network in the following decade in compliance with the universal programme and methodology of UNISIST[1-8].

In the Unesco plan for the period 1984-1985 (within the framework of the medium-term plan for the period 1984-1989) the tasks of IBE in the field of educational information are stated as follows:

- Providing support for the development of an international network for educational information exchange, based on national and regional educational documentation and information centres already existing or being established, by supplying thesauri, directories, bibliographies, information files or other updated documentation tools, and by operating the International Educational Reporting Service (IERS) which, through the information network, will circulate an awareness list and a newsletter on educational innovations;
- Continuing to improve the facilities of the Educational Documentation and Information Centres through the increased use of modern computer technologies.

1.3.3 International Network for Educational Information - (INED)

At the beginning of the establishment of the network (1979) the IBE Director sent out letters to all Unesco Member States asking them to identify the institution which would become the national coordinator of all activities in the field of the participation in and development of INED.

At the international meeting in Florence in 1982[4-9], the representative of IBE stated that IBE had received 83 responses appointing the liaison national institutions for INED and for cooperation with Unesco-IBE: by the individual regions the structure of these centres was as follows:

Western Europe	17
Latin America and Caribbean	17
Africa	16
Asia and Pacific	13
Arab States	12
Eastern Europe	7
North America	1

The general mission of I N E D n e t w o r k [1-9] is to acquire representative information from every Unesco Member State, to process this information in a differentiated manner, to redistribute information products to the participating organizations and thereby to provide better services to all Member States.

The quantitative and qualitative expansion of the INED network which in the years 1984-1985 has linked more than half of the Member States is given a priority support from the part of Unesco, namely as concerns the training of information specialists or the organization of seminars in the Member States. The actual information and documentation services of Unesco (LAD) also endorse the development of this international network of educational information. With this is linked the principle that close coordination obligations within the INED network are observed by the individual Documentation Centres in:

- Unesco Sector of Education in Paris

- Unesco Regional Offices for Education outside of Europe (in Bangkok, Beirut, Dakar and Santiago)
- specialized Unesco institutions, e.g., for higher education such as CEPES in Europe, CRESALC in Latin America, or International Institute for Educational Planning (IIEP) in Paris.

Within the framework of its coordination mission in the network IBE also cooperates with international systems, such as ERIC, EUDISED, etc.

For improving the mutual information awareness IBE issues "IBEDOC Information", a bulletin which informs users on the development and activities in INED and reports on events and institutions in Unesco Member States professionally oriented to educational documentation and information. It is published in the Anglo-French version; the Spanish version in cooperation with the Regional Office in Latin America is distributed only to INED members while the basic version has wide international distribution free of charge.

The common product of INED is the Cooperative Educational Abstracting Service (CEAS). National centres send to it contributions related to the field of educational policy and innovations in form of detailed analysis of the respective documents. It serves the provision of information to organizations and specialists who decide on the administration of the educational system and helps users overcome language barriers (it is published in English and French); by the length of abstracts (up to 10 pages) it may replace less available or less intelligible (because of the language) sources.

IBE also continues to provide r e f e r e n c e a n d r e t r i e v a l s e r v i c e s at request to institutions and specialists in the Unesco Member States through its Documentation Centre and Library. Next to convential types (almost 100 thousand publications, 1100 titles of periodicals) the IBE collections also include research reports, conference materials and other documents, mainly stored on microfiche, including the ERIC collection.

Secondary information is contained in four computerized data bases of which two are of bibliographic and two of fac-

tual character.One of the latter is I B E C E N T containing data on profiles of institutions (centres) especially in the field of educational documentation and research, teacher education, etc. From this data base IBE publishes directories facilitating mutual communication between institutions in Member States. The fourth edition (1982) of the "Directory of the Centres of Documentation and Information Services" contains a survey of the INED network comprising some 110 national institutions and international organizations[1-27]. To make awareness complete IBE also publishes the survey of bibliographies of educational literature being published by the centres included in the network.

Another factual data base is I B E T E R M - the unified terminological base for the maintenance and development of the thesaurus. As the controlled information language the thesaurus is used for indexing and selecting information. It is recommended for use also in the preparation of abstracts, annotations, etc.

The first Anglo-French version of the array of descriptors and identifiers (alphabetical and faceted) was published in 1973. The next imprint of the English version was then published in 1975, the third in 1977, the fourth provisionally in 1982, and definitely in 1985. The French version was published separately in 1974, the second edition in 1976.

The Spanish version was developed in cooperation with the Unesco Regional Office for Education and the national educational information centre of the Ministry of Education of the Republic of Cuba in the years 1973-1977, a revised edition was published in 1982.

In 1977 IBE concluded an agreement with the Documentation Centre for Education of the Jordanian Ministry of Education for the compilation of an Arab version which in 1979 was submitted for review; the revision was coordinated by by the Unesco Regional Office for Education in the Arab countries.

The translation of the thesaurus into Russian was pro-

duced on the basis of an IBE contract with the Soviet Commission for Unesco in the Research Institute of General Pedagogy of the Academy of Pedagogical Sciences of the USSR and issued in 1984.

The bibliographic data base is represented by I B E L I B - the IBE computerized library catalogue. This data base has been completed since 1980 using the CDS/ISIS method, the individual records are indexed using the descriptors of Unesco/IBE Educational Thesaurus, until then the traditional classification of the library collection was made using the Universal Decimal Classification. This goes with the publication of the "Acquisition List" as the computerized output of IBELIB in regular batches of new acquisitions of the library with subject indexes and author (personal and/or institution) indexes.

The second bibliographic data base is I B E D O C - documentation records indexed with descriptors and accompanied by abstracts. Here are stored data on the content of all Unesco and IBE documents and conference materials, abstracts on sources published within IERS, corresponding to the IBE scope and other documentation based on IBE cooperation with selected specialized institutions, e.g., with the European Information Centre of Charles University for Further Education of Teachers in Prague[1-23] (see Section 1.4).

This data base has been computerized since the very beginning, i.e., in the 1970 s according to a different programme; in the years 1978-1981, within the gradual transition to the CDS/ISIS method it was put on a common basis[1-9]. The said quarterly annotated Awareness List is published on the basis of IBEDOC. It is expected to merge with the IBELIB data base in view of the fact that both of them use bibliographic description and indexation according to a uniform programme. Both data bases only differ by more extensive indexing of primary sources for the computerized library catalogue and the provision the secondary sources of brief abstracts for the documentation file.

IBE provides its users with the possibility of the

260

on-line retrieval of information and consultations. It answers queries by telephone and meets written requests by processing search printouts and by providing documentation. Following the introduction of full computerization the capacity of services and their operativeness has greatly increased. Next to own IBE data bases the IBE terminals also will access Unesco data base (UNESBIB) and the data bases of other international organizations, such as ILO, and those of other information systems, such as ERIC.

Another type of IBE services is the d i s s e m i n a t i o n of relevant sources in the original form or on microfiche at the request of cooperating institutions and by distribution on its own initiative. IBE strives to predict the needs of Unesco Mmeber States and to help especially the developing countries by regular shipments of materials to their educational information centres. It also provides them with small technical equipment, mainly microfiche readers, catalogue card mimeographer, etc.

IBE also distributes to all Unesco Member States publications put out by its units. This includes conference materials, especially from ICE, abstract files on microfiche (the SIRE series), the International Yearbook on Education, the series of Surveys and Studies in Comparative Education, etc. As its own information periodical IBE publishes the quarterly bulletin Educational Documentation and Information which has been published since 1926 and as an annotated bibliography since 1969. Its monothematical volumes are published in English, French and Spanish, they deal with topical subjects and after several years they are cumulatively updated. They are compiled on the basis of IBE cooperation with specialized institutions, e.g. vols 218/219 of 1981 "In-service Teacher Education"[4-15] - see Section 1.4).

M e t h o d o l o g i c a l a s s i s t a n c e provided by IBE specialists includes expertise at the request of Unesco Member States or the Unesco Secretariat, this in form of visits to the respective national institutions; receiving the staff from national centres of educational docu-

mentation and information; their in-house training in IBE at the request of the Member State or Regional Office; active participation in international seminars, etc. Since the installation of CSD/ISIS, IBE provides further assistance also to other organizations in order to enhance the introduction of this uniform software enabling information exchange on an international scale.

In INED networking IBE cooperates with the Unesco Secretariat and its related institutions, especially within Education Sector and the PGI programme. Unesco helps meet the IBE budget especially in granting study fellowships, consultation, methodological and technical assistance and training personnel for the introduction of CDS/ISIS, the implementation of national projects of computerized processing of educational information, etc.

The l o n g - t e r m d e v e l o p m e n t of the INED network[1-9] is projected to gradually involve the participating countries to send to IBE together with primary sources also abstracts on worksheets for inputting into the central computerized data base. In the subsequent stage it is anticipated that the participating countries will through their national centres of educational information deliver to IBE magnetic tapes or discs containing information from national production and designed for central use and decentralized international exchange.

Institutions dealing with educational information have thus been offered the opportunity to either use IBE support individually for improving their national educational information networks or, as regional or subregional systems developing on the basis of multilateral cooperation to jointly use existing Unesco mechanisms and resources for speeding up the construction of networks and systems of educational information compatible on an international scale.

The responsibility for the effective use of information available from international systems and for accessing sources which are available within this broad international co-

operation thus rests on National centres of educational information and competent administrators. This may be done on a differentiated basis in accordance with the needs of key groups of users within the field of education on a national scale as stated in Recommendation no. 71 of the 36th session of the International Conference on Education (Geneva 1977), adopted for implementation by the central educational authorities in the Unesco Member States[4-17].

The said recommendations are implemented on national scale through regional meetings of representatives of National Commissions for Unesco. They assess the results and discuss the plan of activities with regard to the fulfilment of commitments and cooperation with Unesco from the part of individual national institutions or non-governmental organizations. The activities are implemented within the Unesco programme, on a participation or contract base.

1.4 Regional Information Subsystem for In-service Education of Teachers (INSET)

Services provided by information macrosystems at international or national level have their advantages and their shortcomings. They may gather complex information but the users seeking to satisfy their information needs usually encounter the excessive generality of files, low selectivity of services and inadequate level of analytical information processing. Services provided at institutional or local level on the other hand suffer from the implementation of subjective criteria of sources selection with regard to immediate interest; their search possibilities, especially in the study of cross-sectional problems do not offer sufficient width of criteria in information retrieval.

This shortcoming in information services has in the recent years of the development of information systems been approached by the establishment of specialized information subsystems, mostly at regional level. They are oriented either to a certain type of information source, e.g., audiovisual media, or to a certain user category, e.g. researchers, but also to a certain interdisciplinary problem area of societal importance, such as requires teamwork, e.g., environmental problems.

By their orientation and in dependence on their scope such information subsystems are either headed by clearinghouses (for complex gathering and disseminating information sources) or by institutions for information analysis and SDI or by both.

The time and place of the establishment of such centres are usually determined by the level of societal urgency of the given problem area, the level and capacity of specialized activity in this field and the state of documentation professionalization, possibly by information initiative in the respective institutional or territorial structure. The established centre then begins to control information flows which until then had proceeded in an invisible college mode, without appropriate formalisation and which would in a cer-

tain stage of the development of the given problem area lose their effectiveness.

1.4.1 Origin and Tasks of the European Information Centre for Further Education of Teachers (EIC-FET)

In the period of the restructuring of national educational systems the teacher and innovation of his professional and qualifications profile comes to the fore. Lifelong education of educational personnel has become a significant social activity whose upsurge has found its reflection in the exchange of information especially since the early 1970's.

It was on the Czechoslovak initiative that with Unesco participation international conferences to this effect began to be convened at the end of 1960's. The conference dealing with the modernization of further education of teachers (Bratislava 1970)[4-18] stated that the thematic area of in-service education of teachers (INSET) had become a relatively autonomous communication system (on the basis of comparative studies by Czechoslovakia and the Council of Europe) and that the exchange of information in this field was in the spirit of peaceful co-existence and national development.

The main information barriers were stated as being the following: lack of recorded information, impossibility of acquisition, scatter of institutions and associations involved in INSET, political/geographical barriers, language differences and general problems of terminology. Bilateral uncoordinated sources acquisition was described as being little operative. The conference participants agreed on a recommendation relating to the international exchange of information on INSET and requested that the Czechoslovak side should be authorized to implement and coordinate this specialized information system.

Following discussions of interested specialists from different countries of the European region, with the support of specialized units of Unesco and the respective authorities in most socialist countries the Ministry of Education of the Czech Socialist Republic set up within Charles Univer-

sity in Prague the European Information Centre for Further Education of Teachers (1973) hereinafter referred to as EIC-PET.

Further development of international cooperation in this field was stimulated by the 35th session of the International Conference on Education (Geneva 1975) which centred on the changing role of the teacher in the changing world. On the basis of Recommendation no. 69 of this Conference[4-16] the concept of INSET in the individual Unesco Member States became part of broader education policy and educational research. More and greater attention is being devoted to the professionalization of the teacher and INSET is interlinked with innovation efforts in educational systems and with the practical work of the teacher in the school. On the other hand INSET becomes an opportunity to improve teachers' qualifications and enhance their personal development.

At the 19th session of the Unesco General Conference (Nairobi 1976) a Resolution was adopted on the Czechoslovak initiative addressed to the Unesco Director General and relating to the increased attention which Unesco should in its further programme devote to INSET.

In its Recommendation no. 71 to the Ministries of Education of Unesco Member States the 36th session of the International Conference on Education (Geneva 1977)[4-17] gave a realistic basis for incorporating specialised regional subsystems in the international information network in the field of educational information. At the European colloquy on information systems and the exchange of information in the educational system EDICO-2 (Bratislava 1977) the then Director of Unesco-IBE stated that the Unesco programme endorses regional activities carried out by national institutions and in this connection he also mentioned the Prague EIC-PET[1-6].

On the initiative of the Unesco Secretariat in Paris the first Consultative Meeting of Selected Experts from the Countries of the European Region was convened to Prague (1977)[4-10] to assess r e s e a r c h a n d i n f o r m a -

t i o n p r i o r i t i e s in the work of EIC-PET for the years 1978-1983. One of the recommendations of the Meeting was that research and other EIC-PET activities should be preceded by documentation and information supply which could contribute to the improvement of INSET in the participating countries. The experts accepted for implementation of the concept of building up the information subsystem[1-20] such as had been presented by EIC-PET. They agreed on the following priority measures:

a) The identification of relevant information centres and their relevant information files and services;

b) Increasing the coordination of activities of international, regional and national institutions in the field of information on INSET within the framework of educational information systems;

c) Improving communication media and methods of cooperation among the interested information centres;

d) Improving the quality and efficiency of information on INSET (bibliographies, abstracts, current and selective dissemination, information retrieval, etc.);

e) The analysis of development trends of INSET systems in Europe.

The experts arrived at the conclusion that EIC-PET had stepped out on a correct and useful road in a topical problem area and they recommended to the Unesco Secretariat that it should take into consideration the results of the Meeting in its programmes, that it should use selected activities of EIC-PET and support them and that it should use the conclusions of the Meeting for extending Unesco activities in the field of INSET.

1.4.2 Establishing Information Network and Services for INSET

ad a) The i d e n t i f i c a t i o n of relevant information centres and their relevant information files and services

The organizational structure and functional scope of this specialized information subsystem for the exchange of information was determined by the legislative, institutional and programme framework of educational systems in the interested countries, primarily of the Czechoslovak educational system as the country which had established EIC-PET. The individual institutions of the information network maintain relations of coordination or cooperation.

EIC-PET established bilateral cooperation and developed international contacts with:

- governmental organizations: primarily Unesco and its specialized institutions, especially IBE, Geneva; non-governmental organizations: e.g., International Council on Education for Teaching (ICET), Association for Teacher Education in Europe (ATEE), etc.
- systems of educational information with an international competence, e.g., ERIC, EUDISED, DOPAED, etc.
- national institutions with an international research programme, e.g., with the German Institute for International Educational Research (DIPF in Frankfurt am Main, FRG), etc.
- with national centres of educational informations, e.g., in Bulgaria, France, GDR, Hungary, Italy, Romania, USSR
- with central institutions for INSET, especially in the socialist countries (Bulgaria, Cuba, GDR, Poland).

ad b) Increasing the c o o r d i n a t i o n of activities of international, regional and national institutions in the field of INSET within the framework of educational information systems

The requirement for the bibliographical coverage of INSET set both processing and coordination tasks. In order to establish productive information cooperation a survey was carried out of the capacity and methodology of the respective institutions in the participating countries with the aim of concluding formal agreements and introducing the unification of bibliography and classification.

Preliminary experience has, however, shown that from the point of view of the needs of the specialized network the sta-

te of documentation activities in institutions for the in-service education of teachers in the individual countries of the European region is mostly inadequate and that centres of educational information do not process information on INSET in adequate depth and linkages.

Supplying information to the secondary file of EIC-PET to a considerable extent still depends on its own processing capacity. Representative selection from national productions is not acquired systematically and presented information on INSET on the international forum through EIC-PET is relatively more active from the part of certain institutions in the socialist countries.

ad c) Improving c o m m u n i c a t i o n media and methods of c o o p e r a t i o n among the interested information centres

Communication in the field of INSET is conditional on overcoming interdisciplinary and international barriers. EIC-PET therefore first focused its attention on:

- defining the external boundary of the problem area with the aim of establishing a division of labour within the network of educational information as well as in relation to other systems; its information scope was oriented to all forms and methods of lifelong education of educational personnel of all functional categories in all levels and types of schools and of all subject specializations;
- the definition of the internal structure of this thematic area for the needs of ordering information, i.e., both internal (classification of the information file) and external towards information services users (searches, indexes) and collaborators within the network (exchange by profiles).

With regard to international understanding EIC-PET selected as its working language Russian (CMEA, Unesco) and English (Unesco, most of operating systems of educational information). It is disseminating information parallelly in these languages (and in Czech for national needs) in such a manner as to promote the mediation of mutual cognition and cooperation between different socio-economic and cultural historical areas.

ad d) Improving the quality and efficiency of i n f o r m a t i o n on INSET (bibliographies, abstracts, current and selective dissemination, information retrieval, etc.)

EIC-PET publishes the selective annotated bibliography

under the title "Further Education of Teachers", vol. 1 (1970-1976, vol. 2 (1977-1978), vol. 3 (1979-1980), vol. 4 (1981-1982), vol. 5 (1983-1984), with indexes; the selection is made from European production where the proportional distribution is to a certain extent influenced by the activities of the cooperating institutions.

Since 1977 the EIC-FET has been publishing the biennial information review under the title "Newsletter EIC-FET" containing the following sections:

- information on EIC-FET activities, especially in the field of international conferences, publications, studies and bibliographies which it implements with the participation of or under contract with Unesco; on international relations and agreements concluded in the network of regional and national institutions, on library acquisitions which it obtains on a reciprocal basis by international exchange, on press review, etc.,
- reports on international developments and events in the field of INSET in the European region, e.g., on research projects, international discussions and forums, comparative studies, instructional programmes, etc.,
- papers on national experience of individual countries with the implementation of reforms in teacher training, with innovations in the educational process, with contents, methods and forms of INSET at the level of national systems or within the framework of certain categories, e.g., counsellors, or within certain educational fields, e.g., environmental education), etc.

Added to these active, current and survey information services EIC-FET prepares thematic searches to order for priority user profiles, namely school administrators, managers of research projects, teams of educationalists of institutions for teacher education in the individual European countries. Secondary information is completed with original sources at request, this mostly on microfiche. (For results of a survey of EIC-FET users see Section 2.4).

ad e) The a n a l y s e s of development trends of INSET systems in Europe

The research and analytical activity of EIC-FET in the form of the critical evaluation of sources gathered and analyzed within its activity, preparing synthetic and comparative studies and team work based research of current topics

was launched in 1983. Until then the documentation activity was developed enabling to observe the trends depicted of INSET development on an international scale at the level of the communication process in this field.

Within the framework of the research project "Optimization of the Communication Process in the Field of INSET" frequency analyses of the following aspects were carried out[x]:

- i n f o r m a t i o n s o u r c e s on INSET using the bibliometric method which helped introduce feedback control of - to that time empirical - acquisition, excerption and distribution policy of EIC-PET by showing the relevancy and proportions of the individual types of sources, the areas of provenance, etc.,
- EIC-PET i n f o r m a t i o n s u p p l y implemented in its information publications by the classification method which showed the efficiency of the applied classification and indexation schemes as well as the structure of INSET thematic areas as reflected in information sources.

It was found out that analytical bibliographic units account for almost three quarters of sources on INSET - this includes prevalently parts of publications, such as papers published in proceedings and chapters in books, journal articles, etc. This is because INSET is a cross-sectional thematic area which is characterized by mostly being part of a wider problem area which is dealt with in more extensive works and which is usually complexly related to whole educational system or to innovations of a certain part of instruction or teacher education.

This means that EIC-PET must follow a wider range of publications and analytically select from this range relevant items for processing. As concerns the frequency of periodicals the scattering of information fully conformed to Bradford's law and the frequency coefficient could be used for cancelling subscriptions to such titles where the INSET problem area only appears sporadically in any one year. The periodicals are followed in the central pedagogical library and

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x) The analyses were conducted by PhDr. J.Hradilová, information specialist of EIC-PET, from bibliographic sets covering the years 1970-1982 (see 4-29).

selected articles are filed in EIC-PET in microfiche form (produced under contract by a specialized facility) which is not so costly; moreover it does not require much space and is easily distributed and used in international exchange.

EIC-PET also acquires microfiche from less available documents or from remote areas by following central international registers, e.g., the union catalogue of research reports within MISON, on exchange basis acquires print-outs (IBEDOC, UNESBIB, ERIC, DOPAED, etc.). These services are mostly accompanied by the accessibility of primary sources in the given form.

From the point of view of source provenance the relative prevalence of the socialist countries has been manifest in the structure of information which is connected on the one hand with their activity and on the other hand with the comparatively broader selection of materials from their national literature by EIC-PET. The production of these countries is thus, through the medium of the English language, presented on the international forum, e.g., Unesco or ERIC systems, where so far this production has not had appropriate bibliographical response. A relatively large proportion of records are of the materials issued by international organizations, such as Unesco-IBE, the Council of Europe's Commission for Cultural Cooperation, ERIC-AACTE, ICET, ATEE, etc., which through the medium of the Russian language within the EIC-PET services makes available to its partner institutions in CMEA Member States.

The classification analysis showed that for current information awareness the scheme has been proven of thematic (problem) groupings while for the purpose of multi-aspect information processing for indexing and retrieving purposes the descriptor system proved to be more suitable. EIC-PET developed an INSET subthesaurus in the national language (with follow-up on the branch thesaurus valid in the sector of the Ministry of Education of the Czech Socialist Republic). A conversion system to the Unesco-IBE Thesaurus is being developed (English version and Russian translation) which is

used by EIC-FET to analyze world-wide literature under a contract with Unesco (see below).

These feedback analyses have served several purposes:

- within the initial intent it is possible to control information flows in INSET on a regional scale, on the basis of the knowledge of objective trends in the communication process and thereby also of the production and dissemination of information sources,
- the survey of users of information services carried out by EIC-FET (see Section 2.4) was oriented to their profiles, thematic preferences and requirements for forms of information accessing as expressed in the international inquiry conducted in the years 1979-1981. Its results allowed to compare the objective and subjective factors of this communication process and to confront the EIC-FET information supply with the information demand of the user population,
- in the process of introducing information technology EIC-FET may proceed from quantified data on information processing, namely as concerns bibliographic and classification units. This has proved useful especially for the application of the unified Unesco (CDS/ISIS) software and for completing the data base on micro-computer, exchanging the computerized information and retrieving it through on-line communication.

1.4.3 International Impact of EIC-PET Activities

EIC-PET on the one hand collects sources and records information relating to INSET and on the other hand provides secondary information on marginal problems by using the services of information macrosystems; following evaluation and analysis of acquired documentation it selectively disseminates information to its priority users in the individual countries. This allows the efficient use of such information by specialists working in teacher education at decision-making development and implementation levels, this on an international scale[1-22,24].

Insofar as basic information services[1-5] were established up to the end of the 1980's qualitative upgrading of information activities of EIC-PET is anticipated for the subsequent period namely in the following directions (ensuing from Unesco recommendations):

- deepening coordination in the information network,
- using modern information technology,
- improving the quality of information analysis.

On the regional scale EIC-PET has gradually been considered for the coordinator of the developing network of institutions and specialists as it enables the exchange and generalization of knowledge and experience in INSET. In the spirit of international understanding and peaceful cooperation EIC-PET operates as a mediator of information.

In English EIC-PET informs on INSET forms and methods in the socialist and other countries, and on the basis of multiplication this information is disseminated on an international scale through various information systems (for instance, ERIC) and international organizations (Unesco, the Council of Europe).

In Russian EIC-PET reports on important international projects (OECD/CERI, UIE, DIPF, etc.) and conferences (ICET, ATEE, etc.). Such information is then used and evaluated by users in the respective information centres, e.g., in the socialist countries[1-13,22]. A number of specialists and insti-

tutions send to EIC-FET their author abstracts and representative bibliographies to be given international publicity in the EIC-FET series through which they are disseminated directly within the European region and through information systems feeding to the whole world.

For instance, in 1981 Unesco-IBE in Geneva published the monothematic double volume 218/219 of its quarterly bulletin "Educational Documentation and Information" devoted to INSET[4-15] which was compiled by EIC-FET information specialists under contract with IBE. It contained an introductory study and an annotated bibliography of the world literature published in the years 1974-1979. Within Unesco distribution policy it was published in English and French and disseminated to the Unesco Member States. EIC-FET thus e x c e e d e d t h e E u r o p e a n f r a m e w o r k (see Suppl. 4.1).

In the next stage EIC-FET has started to participate in using modern information technology in that it analyses information sources of world-wide provenance and records information on INSET for inclusion in the IBEDOC international data base[1-23]. Under contract with Unesco/HEP (Higher Education and Training of Educational Personnel Division) EIC-FET prepares from these sources abstracts in English, indexes them according to the Unesco/IBE Educational Thesaurus and formalizes the bibliographic description according to the CDS/ISIS methodology for the input into the IBE computerized documentation system in Geneva. The EIC-FET has been involved in these activities since 1981 (covering production as of 1980 as a follow up to the said bulletin double-issue).

In the IBEDOC data base this information is available for search purposes; as of 1986 also on-line. At the end of 1985 IBE issued a cumulative set (1980-1983) of abstracts related to in-service teacher education with indexes and an introductory study by EIC-FET on international trends in teacher education in the Bulletin, vols 234/235[4-15].

This cooperation was also appreciated from the part of IBE at the European colloquy EDICO-4 (Bratislava 1984). With regard to the share of EIC-FET in the development of inter-

national cooperation the recommendation for the national bodies of Unesco Member States as incorporated in point 14 of the Final Report[1-8] states:

"d) to support efficiently the activities of specialized information centres with a regional scope (of a similar type as the European Information Centre of Charles University for Further Education of Teachers in Prague, Czechoslovakia) in harmony with the UNISIST programme so that they will:

- select information from their national production that should be incorporated into regional information systems;
- make available information provided by regional centres to the respective institutions that are responsible for its use at the national scale".

The Second Non-formal Consultative Meeting of Selected Experts from the Countries of the European region (Austria, Bulgaria, FRG, GDR, Hungary, Sweden, United Kingdom, and USSR attended also by representatives of the Unesco Secretariat, Unesco-IBE and the Documentation Centre for Education in Europe of the Council of Europe[1-4] was convened by EIC-FET with Unesco participation to Prague (1983)[4-11] to evaluate the resultes of the work of EIC-FET in the preceding period and to discuss its programme within the framework of the Unesco medium-term plan for the years 1984-1989.

Also this Meeting stated that cooperation developed between Unesco-IBE and EIC-FET corresponds to the spirit of Recommendation no. 71 of the 36th session of the International Conference on Education[4-17].

The Final Report of this Meeting stated that "as concerns the acquisition of sources as well as information on other sources of knowledge and events in the field of in-service teacher education EIC-FET had achieved relative complexity. Bibliographic processing and information presentation correspond to demand and to objective information need in the given thematic field and to current international methodology. The methods of the dissemination of information in the information periodicals of EIC-FET, namely the Russian/English versions which served the mutual exchange of information between different language, geographical and socio-econo-

mic groupings, have proven efficient."

For the subsequent period the experts recommended that all existing documentation and information activities of EIC-FET should be continued and that they should be developed in two directions:

1. The i n f o r m a t i o n a n a l y s i s of gathered information within the research activities of EIC-FET.

2. The development of existing documentation and information activities of EIC-FET, namely through:

- active orientation to the "recipient" but also the "supplier" of information in the network , using the method of e d u c a t i n g i n f o r m a t i o n u s e r s,
- the differentiation of selective dissemination of information directly and through m e d i a t i n g i n s t i t u t i o n s,
- the effective use of modern i n f o r m a t i o n t e c h n o l o g y including existing mechanisms of the application thereof on an international scale, especially Unesco.

The key problem of the nearest future is the involvement of teachers in the use of information and the strengthening of the communicative function of information. This means to shift the focus from a collection, selection and information synthesis where the optimal stage has been reached to the system of information analysis and use.

In order to be able to improve the use of information by teachers it will be necessary to study their information needs. The following chapter will try to clarify these aspects.

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69

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2 INFORMATION NEEDS OF TEACHERS

2 INFORMATION NEEDS OF TEACHERS

In the period of the improvement of educational systems at national level the innovation mission comes to the fore of information which represents the indispensable link between pedagogical theory and educational practice, between proposals for the reform of educational systems and the implementation of such projects. The ability of teachers to receive, implement and stimulate such changes becomes the basic qualification requirement and permanent reason of their lifelong education.

The role of the teacher as the subject of the educational process is extremely demanding. What is his position and what tasks does modern age set him as concerns the communication of specialized information in his profession ? On one hand there is the area of information production and flow directed at the teacher. This communication cycle usually does not exceed the boundaries of the sector of education and is related to educational policy and planning, pedagogical documents and research, the organized system of in-service teacher education, etc. Such information meets the objective social needs of the teacher´s specialized professional awareness, regardless of whether the respective educationalist realizes this fact or not.

On the other hand there are cycles which the teacher feels as subjective needs and expresses them in form of information requirements. This need for specialized information originates or is manifest only at a certain level of the professional development of the teacher´s personality. This need will then lead to activity aimed at acquiring information and may be influenced by ways, forms and objects through which it is met. In the field of teachers´ information needs this is the task of the administration and methodology bodies in the educational sector as well as the mission of information centres and libraries[2-3,7]. The complexity of these needs becomes the object of research within information policy in the field of education[2-34].

The objective need of professional information awareness and the subjective feeling of the need of specialized information may come into conflict in the teacher. This is because some of the teachers are not at the desirable level of information skills. Information needs do not exist by themselves, independently, but alwys in a concrete user and concrete situation in relation to his knowledge and skills.

Meeting the user's objective information needs is the main task because it is aimed at influencing social reality. The user should therefore be stimulated in such way that this objective need becomes his actual need. To do this both the users and the information services should learn to recognize this objective information need. This goal can only be achieved through cooperative effort involving information specialists and senior and creative educational staff and teams in the analytical evaluation of the exactingness of the target function of the respective working activity and information environment.

2.1 Information Environment[x] of Educational Personnel

2.1.1 Communication Channels in the Educational System

The area of the origin of information and officially regulated information flows oriented towards the teachers are distinguished as follows[4-12].

a) The d e v e l o p m e n t o f e d u c a t i o n a l p o l i c y from the draft to the decision-making level. Information is generated by governmental and political bodies producing legislative documents which have developed in the process of drafting and review procedures, adoption and promulgation. The teacher often has to know this development in order to fully understand the intentions of the policy which has led to the formulation of a law decree incorporating subsequent measures for implementation, i.e., the production of the respective documents and information in the procedure of the compilation and drafting of plans and budgets for the individual educational subsystems (type or territorial) as well as for concrete schools. Information is usually disseminated by the central educational body responsible for planning and evaluating the implementation of the above mentioned measures within the framework of the respective planning periods which set the rythm of information cumulation such as is indispensable for educational practice in this area. Equally significant are reports on the fulfilment of the plan, be they at territorial level or from the point of view of the type of educational facility. They contain statistical information with elements of evaluation, especially from the technical and economic aspects, up to general conclusions with regard to the economics of education and the needs of the given society.

b) T e r r i t o r i a l s t r u c t u r e o f t h e e d u c a t i o n a l s y s t e m represented by school administration bodies at different levels (central, regional, local). At central level this is the production of syllabi

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x) "Informatics is developing from a particular science into a comprehensive programme aimed at investigating the global problem Information Environment in a Developing World". (Prof.Michailov at the 42nd FID Congress, the Hague 1984) 2-28

and regulations for the unified examination system, coordinated are curricula and teaching aids, including text-books. The methodological control of the content of the instruction of thematic areas, interdisciplinary relations and the respective teaching methods differ from country to country; information on them, however, is part of the routine equipment of the teacher in his field of competence, be it solely at the level of recommendations. At the local or institutional level the production of information is oriented to the interpretation of directives and to the application of concrete procedures within the given conditions. At this level the general category of information users, i.e. teachers, assumes the concrete shape of real user profiles.

c) E d u c a t i o n a l r e s e a r c h , d e v e l o p m e n t a n d e x p e r i m e n t s , be they carried out on academic or sector soil have a linkage, more or less close, with the requirements of the school administration and the needs of educational practice. The results represent information of the type "scientific educational literature" in form of research reports, theses, articles published in the specialized press, proceedings, conference materials, studies, etc. Educational research to an increasing extent requires teamwork. The team will be drawn from experts of different professions and its investigatory and experimental activity requires a lengthier period of time. The research results either contribute to a better understanding of certain problems or lead to dreft measures; development studies usually result in the design of a prototype, proven and acceptable on a wider scale. These results are again an indispensable part of information acquired by educational personnel.

d) S y s t e m o f i n - s e r v i c e t e a c h e r e d u c a t i o n , namely when it is based on compulsory regular or cyclic attendance. Organizers direct the distribution and sometimes also own production of information at the teacher. Participating in the organization and support of this system are usually both the central educational bodies

and school administration at the regional or local level. At the national level in some places central coordination and research institutes for in-service teacher education are also in operation. They mostly cooperate with institutions of higher education training for the teaching profession, teacher organizations and trade unions, cultural educational institutions and the mass media. The teachers themselves participate in this activity by associating on a subject functional or regional principle. At certain levels contributors to in-service teacher education are methodological institutions which provide the neccessary aids, documentation and consultations. The specific information areas correspond to the individual goals of the system of in-service teacher education: innovation, retraining, specialization, etc. They provide the theacher with the possibility of upgrading his qualifications, developing his personality, especially as concerns his social and ideological profile, pedagogical and psychological skills, professional knowledge within the framework of his specialization and overall cultural level.

The results of the above described communication range are oriented to the activity of the teacher with the aim that he should apply them in the educational process. To achieve this all mechanisms are used ranging from directive and legal as well as methodological to inspiration and motivation, and including effective channels for information dissemination. The binding nature of national measures and unified procedures endorses the implementation of information in educational practice.

The situation is not the same in the process of the communication of specialized information which is initiated by the teachers themselves. These information needs of teachers have a professional, concrete and empirical character, their structure and sources are not always covered by official distribution or by the services of information systems, and have not been adequately investigated. They primarily include[4-12] :

e) **Problem situations of educational practice** where tradition has it that the teacher turns for advice rather to his senior colleague, the principal, methodologist or his former teacher from the college than to turn to the library or documentation centre for information retrieval. The question arises to what extent this is caused by the imperfection of information services for teachers ot the inadequacy of training information skills in teachers during their pre-graduate education. This can only be resolved by a number of surveys (to be discussed in the Section 2.3) which are oriented to these problems.

f) **Exchange and dissemination of progressive experience from educational practice.** Not everywhere are teachers sufficiently encouraged to produce and disseminate on their own initiative information for general benefit and their own professional recognition, i.e., specialized prestige. In the socialist countries a specific forum has been developed known as "educational readings" at which teachers meet, with official support and funding at certain intervals at local, regional and national levels and in form of a competition they present their contributions of which the best are then published for broader usage. Another opportunity for the exchange of experience, next to informal discussions with colleagues in the school, are teachers' subject associations at the level of larger territorial entities where experienced teachers work as methodologists.

g) **Subjectively motivated self-education** places the teacher in a situation similar to that of any user of specialized information in any other profession. The teacher should become the object of the interest of systems of educational information as a category of the user of their services. In case the teacher has a particular interest within the framework of his subject specialization he should have the possibility of

using the services of other branch information systems. Recommendation no. 69 addressed to the Ministers of Education of the Unesco Member States by the 35th session of the International Conference of Education (Geneva 1975) and relating to the changing role of the teacher in the changing world states[4-16] that

"Self-education of teachers should be considered as an iportant element in their continuing education. The educational authorities and educational research and documentation centres should help the teachers to organize their individual in-service education by providing guidance, the necessary documentation and literature, library facilities, etc., and by making the necessary time available."

Teachers' self-education follows on the formation of habits related to the use of information sources. The control of individual study is a great reserve for raising the efficiency of the educational process, organising the working regime, independent work with various types of sources and with the respective technical aids.

The extensive use of scientific information and modern technology in personnel training is closely linked with the organisation of the consistent and planned updating and development of the teachers' professional knowledge and habits. It should have a high standard, namely as concerns the latest theoretical and practical results achieved both in the educational and information sciences. As concerns the process of improving the pedagogical knowledge and methodological mastery of teachers this will certainly involve coping with the functions of controlled cognitive activity and broadening of skills and habits in the field of information transfer.

2.1.2 Unity of Information and Education Needs of Teachers

In the document presented at the 36th session of the International Conference on Education (Geneva 1977) as a survey of studies on the needs of educational information[2-3] the views were expressed that the needs of pre-service and/or in-service training of teachers could not be easily distinguished from their information needs, and that one can distinguish several levels within this category of information, namely basic, supplementary and updating.

In a joint paper submitted by international teachers' organizations[2-29] to the same Conference the authors pointed out that when the conditions for teachers' activities are defined it is necessary to bear in mind their information needs and the needs of permanent education. This postulate is further applied in the sense that national governments and other institutions responsible for the development of the educational system should provide teachers with opportunity for lifelong education and should enable them to take active part in the innovation process and in upgrading the standard of teaching. The right to information should be guaranteed to teachers on the same basis as other rights ensuing from the conventions of the International Labour Organization (ILO) of 1966[2-19].

The manner in which the teacher is educated - and informed as well - has significant consequences. It should develop the teachers' constructive attitudes leading to responsibility; the role of the teacher in the educational system and the possibility of playing this role, as it is conceived by the teachers themselves, depends to a considerable extent on how well they are informed and on their motivation, which in turn is the task of the systems of teacher education. The significant place which was allocated in the document of international teachers' organizations[2-29] to teacher education as a system of information transfer follows from the need to overcome certain problems described as being worldwide even though their frequency and level differ considerably with national and local conditions.

Sectoral barriers may, for instance, result in weakening teachers' interest in other types and levels of education and in other subjects, and impede considerations of the general problems of the educational system. In most cases horizontal exchanges of information between schools, local educational institutions, teacher organizations, etc. thus stagnate. As concerns the vertical flow of information it is usually directed "downwards", i.e., from educational administrators to teachers; information from the teacher, directed "upwards" is at the best only received but very rarely enhanced and used and responded to.

In order to improve the information awareness it is necessary to coordinate efforts in the field of educational innovation, educational research, but first and foremost in teacher education. Teacher organizations can become active partners of both the information systems and of systems for in-service teacher education.

From the point of view of the specificity of the communication of specialized information, in-service teacher education is an information system sui generis[4-12]. It not only follows up on the sum of information acquired by the teacher during initial (pre-service) training but also on experience gained by the teachers during their educational practice. As has already been mentioned the teacher's motivation for acquiring information need not always be in harmony with objective information needs which are projected into binding syllabi and curricula and into in-service education of educational personnel in centralized educational systems[4-31].

In-service teacher education is provided also by other opportunities and events, such as conferences, associations or published exchange of experience. In their self-education, from permanent and controlled to episodic search for information related to concrete problems a significant role is taken by services provided by information systems and libraries which in the information environment of the teacher most often take the form of a school library.

With regard to content any information related to human

knowledge and action may enter the system of teacher education. Mostly we are concerned with information intents of three types[4-12]:

a) the evaluation of the educational importance of various fields of scientific and technological development, artistic creation, new social phenomena, e.g., in the life of youth, etc.,
b) the stimulation and verification of educational experiments, such as the compilation and development of new curricula and text-books, testing and evaluation methods, etc.,
c) the dissemination of innovation changes which are generally considered as being useful and feasible in the educational process, such as the introduction of modern educational technology, etc.

Information of this type in in-service teacher education serves r e - t r a i n i n g and is related to the teachers abilities to understand new generations from which they become more and more distanced with age, and helps teachers in remote areas to keep in touch. It is even considered to be essential that every teacher should roughly in the middle of his active service be given the opportunity to intensively requalify and then in the subsequent period to be able to do so at least two or three more times, on a smaller scale. The information need related to re-training is usually biggest in the teacher's subject specialization.

That sum of information has a s p e c i a l i z a t i o n function which the teacher acquires within in-service education designed for extending his qualification to some other educational function, e.g., in the field of special education, educational guidance and counselling, etc. This may also concern special interest motivation or an experimental intent which will broaden the teacher's horizons in the field of research methods, information skills, etc.[4-27].

Specialized information from the whole world transformed with regard to the development of information science and technology should enter programmes, differentiated by subject specialization, school level and concrete educational tasks.

Coordinating institutions should issue methodological materials for specialists who work as teacher educators as well as for the teachers themselves, with a view to requirements of individual study; they should also work in close coordination with the mass media, regional teacher centres and libraries.

The requirement that the flow of information should not become a burden for the teacher seems to be the most difficult to fulfil. Forms of information dissemination should be subordinated to teachers' needs and should be useful for them. On the other hand information must be treated in coordination with the teachers and should include the results of their creative work in such a manner as to allow this experience to be further generalized, theoretically elaborated and evaluated[2-29].

The system of in-service teacher education should provide the teachers with as much new advance information as possible - this information should be based on their specialization but should also deepen their ability to independently complete this information[2-16].

This system is also one of the channels for the dissemination of information on the results of educational research, and on legal acts and methodological materials issued by the educational administration. This should be a two-way information flow; through courses, seminars and conferences also a feedback information should be accumulated on acquired and generalized experience of teachers at school level and on the needs of educational practice.

In this manner teachers can take active part in the fulfilment of significant task: on one hand to adapt their education to the changed requirements of society and on the other to contribute to further social development by the active modernization of the educational process.

2.1.3 Innovation of Educational Process and the Information Awareness of the Teacher

A significant aspect of the teachers' information needs are their attitudes to changes introduced in the educational process. These attidues are of special significance in the implementation of innovation measures and any lack of information from the part of the teacher may result in slowing down the development of the educational system as against the needs of social practice.

The teacher must identify himself with the intents of the project of these changes and must implement them in his everyday practice in class. That is why significant innovations in the educational system cannot be made merely by implementing changes in aims, content and means but primarily through the activity of the teacher. This activity is under certain conditions considerably stabilized so that it will not be substantially influenced by a mere change of the educational law, curricula, etc. Analyses of this phenomenon have shown that changes of the system are effective not only when implemented "from above" but also by action "from the inside".

This may be illustrated on the example of the Project of the Further Development of the Czechoslovak Educational System which was launched at the beginning of the school year 1976/77 on the basis of the implementation of the conclusions of the XVth Congress of the Communist Party of Czechoslovakia (1975) in the field of education. Among the most important content changes were those implemented, for instance, at the first level of primary school, including the training of teachers for this specialization. This was because the allround development of the child is determined by the content of education and rearing from the very beginning of school attendance[2-24].

Within the framework of the Project great attention was devoted to the preparation of teachers for its implementation. Emphasis was put on the leading role of the teacher in the

educational process, in the upgrading of the didactic system of the school, in the implementation of comprehensive communist education and also in the teachers' orientation in the rapid flow of scientific and political information.

This programme was experimentally verified well ahead on a sample of teachers from experimental schools. The first stage of this verification was organized centrally by the Ministry of Education of the Czech Socialist Republic and the second stage by the respective regional pedagogical institutes.

The function of curricula was also extended. The curriculum became the basic pedagogical document with a conceptual and control function. Teachers studied this document within organized training at first in linkage with basic documents of educational policy and with specialized and methodology related literature and then in linkage with experimental text-books and other methodological material. On the basis of this study they carried out the p r e p a r a t i o n for their educational activity with children. This activity in experimental classes was to secure:

a) the consistent observance of experimental curricula and methodological instructions and the use of experimental text-books and other verified materials,

b) the collection of all data on this activity in compliance with instructions issued by researchers bearing in mind that the tasks should be adequate as concerns the given time interval, encountered difficulties, etc.,

c) the observance of the flowchart of oral and written examinations, strictly observing the set principles and the transmission of results for further processing.

Similar tasks were fulfilled by teachers in control classes using the then valid curricula and text-books.

The experimental group of teachers not only verified the new didactic system but also creatively developed it. Pedagogical c r e a t i v i t y was to manifeste by[2-24]:

- seeking new possibilities for the ideological and educational use of the subject matter with regard to the allround development of the pupils,
- the development of inter-subject relations which had not yet been fully developed in the experimental curricula,

- the methodological development of possibilities for deepening the linkage between instruction and life, the stimulation of pupils for independent work, suitable motivation of learning, etc.,
- the new approach to the evaluation and marking of pupils with emphasis on positive moments,
- organizing life in the class, the use of pupils' committees, help to the young pioneer organization,
- winning the support of parents and the understanding of the broad public for the new methods of school work.

It was proved that the teachers were convinced by the comparison of the results achieved as compared with the results which they had achieved in their previous work, e.g., advantages of mathematics instruction based on operations with sets and the efficient application of acquired mathematical knowledge to instruction on nature. The activity of teachers at seminars with research workers increased with growing experience. This activity was oriented to further improving the content and process aspects of the new educational conception. The attitudes of teachers in experimental classes towards this conception gradually changed - the ratio of this positive approach increased with school grade - in the fourth class the proportion of positive approaches had reached 77 %).

The interest of other teachers who were not working in experimental classes was attracted by organizing visits, publishing articles in methodology related journals and in the press and through other information channels. They showed spontaneous interest in seeking information on new methods which were winning appropriate response.

High demands were placed mainly on the aptitude of teachers of certain subjects. It was recommended that for experimental instruction teachers should s p e c i a l i z e not only in subject but also by school grades. In the process of verification data were gathered on the specialization of teachers and their progress with certain groups of pupils. In the first two grades the teachers most frequently specialized in aesthetic or physical education and in work training. In the following two years their specialization deepened and was extended to further subjects.

The explicit orientation of the new conception of the educational system in the Czechoslovak Socialist Republik to stimulate the activity of children in coping with the new content always requires immense effort from the part of the teacher in his first year of work in any school. Conclusions were derived from this as concerns the provision of training and information to teachers. This was done by an adequate number of qualified tutors, mainly from the ranks of the authors of the new conception, personnal of regional pedagogical institutes, selected teachers of experimental schools and district methodologists who monitored the verification. This preparation was implemented by the system of teacher training institutions, namely basic training in the course of the school year preceding the introduction of the new conception in the given class and complementary training in the process of work with new text-books and methodological materials in the given class.

B a s i c training was carried out using lectures and instruction meetings with specialists working in educational research and at institutions of higher education, the individual study of information sources (research materials, articles published in methodology oriented and specialized journals, educational radio and television broadcasting, seminars and sets of teaching and learning materials, including methodology related materials for teachers.

The following materials were recommended for c o m p l e m e n t a r y training: model visits to experimental schools, mutual visits by teachers of several schools, control and inspection visits, audiovisual media and exhibitions of new aids and displays of written documentation by pupils.

Next to this system single more extensive actions were organized which contributed to increase the interest of both teacher and broader public in the implemented changes. The pre-service education of teacher students at teacher training colleges and the post-graduate study courses for elementary school teachers was oriented to the new conceptiong. Part of the practice teaching was carried out at experimental schools

and a sufficient number of copies of the new curricula, text-books and other methodology materials were made available to teacher training colleges.

The reconstruction of teacher training is to secure that the profile of the graduate should comply with the demands following from the prospects of the further development of initial education of pupils. With regard to the tendency to unify the common core of all teachers training these requirements proceed from the proportionality of the ideological, political, moral, pedagogical, psychological and subject components of their specialization[4-20].

The teacher at the first level of primary school is usually the only teacher in the class in which he teaches all subjects and has a significant educational mission. These specific features of his functional profile require an active information approach to the following communication areas[2-24]:

a) high cultural level with regard to the fact that the school is no longer the sole source of general information; namely a good knowledge of national culture and its progressive traditions, children s literature, theatre and film and other contents and means of emotional influence on children of junior school age,

b) information awareness in the field of social events, the development of science, technology and culture and the ability to make available for children the meaning and essence thereof from the point of view of the world scientific opinion,

c) the knowledge of pedagogical, psychological and sociological laws of the educational process; following information in this area with the aim of deepening, upgrading and updating one s own specialized qualifications and improving own educational skills,

d) acquiring a mastery of the methodology of the subjects taught at the first level of primary school, a high culture of oral presentation, literary correctness, formal and factual perfection of written communication,

e) the ability to work with information sources in the classroom, to help pupils use the school library,

f) the ability to retrieval information in problem areas related to disabled children, educational work in institutions for children of junior school age, in extracurricular and out-of-school education, in rural schools, etc.,

g) the knowledge of local problems and participation in public activities, knowledge of the social and legal aspects of the family and of care of children and youth.

2.2 Information Behaviour of Teachers

The flood of information, inadequate training in its retrieval and the teacher's shortage of time lead to the view that if certain information is indispensable for his work in the school and for his mission in the educational system then someone must come to transmit it to him[2-33]. This is reflected in the teachers's attitude to the sources of educational information, to specialist information sources and to the services of specialized information systems. Attempts are therefore being made to understand the information behaviour of the teacher and to go out to meet his requirements.

2.2.1 Educational Research and Information Dissemination

"Educational research is a field of very small islands, with very little in the way of bridges between them".

This is a very illustrative depiction of the "communication gap" between educational research and the teacher in his everyday problems in the educational process made at the conference on "Educational Research and the Teacher" (London 1965)[2-13]. It was stated at the conference that teachers attach importance to the study of research materials but that this study in fact represents only a very small part of their professional life. They believe that these materials are very often not comprehensible enough for them, too extensive, with complicated formulation, biased in presentation or have limited use. The same was true of the popularization of the results of the research; most teachers would prefer being regularly informed by comprehensive surveys.

Other surveys[2-8] carried out in the United Kingdom showed that teachers acknowledge the necessity of being kept informed on trends in education and on the results of educational research and development but their motivation for seeking information in this respect is weak. Data which do reach them come from informal communication between colleagues or through teachers' periodicals, not, however, from "academic" journals and books and rarely through bibliographic index or abstract

services. The conclusion arrived at was that communication with teachers is inadequate from the part of both educational research and information services from which active stimulation of requirements and needs (even unexpressed) should come.

In the United States, at the colloquy of the American Educational Research Association (AERA 1970), participants pointed to the wide range of specialists working in research, development, innovation and experiments which gives rise to problems in effective communication not only directed towards teachers but also between the said specialists. The institutional linkage of teacher training and educational research causes certain conflicts arising between acquired educational knowledge and actual school practice. From this is derived the difficulty of securing the dissemination of information on the results of educational research to educational practice, this even in the services of the ERIC system. The critical evaluation and subsequent analyses resulted in the compilation of a report on "The Educational Research Community: its Communication and Structure. A proposal to improve the social and communication mechanisms in educational research"[2-11].

Users of the results of educational research do not themselves have the possibility of evaluating the importance of these results for educational practice. Control of the quality of this information which is disseminated outside the research community should remain in the hands of the researchers. This control does not consist only in interpreting the knowledge encoded in the scientific language or research reports into the everyday language of school practice. Here we are mainly concerned with the integration of evaluative analysis and synthetic elaboration of this knowledge, with emphasis on filtering useless and condensing useful information so that educational research could increase the efficiency of the educational activity of teachers[2-25].

Within the programme of the European Cultural Foundation "Plan of Europe 2000" the project was published under the heading "Educational Research" (1975)[2-26] which presents

the results of a survey conducted in several European countries. It sums up the views of specialists from the ranks of scientists and administrators of educational research on the contribution of researchers to processing and disseminating information relating to the results of their work, with regard to the quality of information and the measure of its filtration and condensation.

Dissemination methods	Current state	Attributed importance x)
Preparation of report abstracts	1.1	1.6
Preparation of press releases : newspapers	1.6	1.1
Preparation of press releases : other periodicals	1.1	1.1
Popularization of reports etc.	0.9	1.3
Information at meetings of		
- teacher students	1.5	1.4
- teachers	1.2	1.6
- school of education teachers	1.1	1.6
- school administrators	1.0	1.4
- policy makers in education	1.1	1.6
- parents associations	0.6	1.2
Recommendations for educational practice	1.1	1.5
Participation in public debate	1.1	1.2

x) Rating: 0 = minimum (no activity)
1 = medium (occasional activity)
2 = maximum (regular activity)

At the international colloquy "Teacher and the Science of Education" (Prague 1979)[4-27] held by EIC-PET with Unesco participation interesting papers were centred on this problem area. It was stated, for instance, that teachers usually do not like to accept ideas from people who do not themselves teach. There exists a barrier between education scientists who use complicated terminology and refined statistical methodology and practitioners. A great part of educational literature is written with the aim of maintaining communications among the researchers themselves and not with the teachers. The need is felt that knowledge accumulated by educational researchers should be interpreted to teachers in comprehensible and acceptable form.

The results of a Yugoslav survey[2-27] presented at this colloquy (465 teachers in two regions of Slovinia) showed

that information for the transfer of educational innovations from research to practice was transmitted as follows:

Rating	Information source	Percentage of responses
1	School principal	23.0
2	Good example of colleagues	18.7
3	Discussion in groups	12.6
4	Lectures	10.2
5	Reading specialized articles	8.8
6	Reading specialized books	6.7
7	Advice from school inspector	2.5
8	Display of teaching media	1.8
	Other responses	14.3

A Bulgarian survey[2-2] whose results were also evaluated at the said colloquy arrived at the following conclusions: in mediating and interpreting information related to educational research it is first of all necessary to characterize the properties of this information; only then will it be apropriately used by the teacher. The methodological level of information is most available for the teacher and most important from the pedagogical point of view. Most teachers remain at the methodological level and only very few reach the theoretical level. Teachers in the role of information users use information more as a source of knowledge than as a means of educational work, which on one hand sometimes leads to theorizing and on the other to simple empirism.

The communicative measure of educational information depends on its accessibility, the level of communicators and on differences in this level. The accessibility of educational information is, from the viewpoint of the teacher as an information user, determined by the effectiveness of the role of the information recipient more than by the objective characteristics of the information. It would therefore be necessary to bring into harmony activities linked with the creation and use of educational information with the views and possibilities of teachers as the recipients and users of this information. Methodological handbooks should contain, albeit in abbreviated form, theoretical educational postu-

lates which would serve as the basis for concrete methodological instructions. In this manner the discrepancy may be overcome between the theoretical and methodological levels of information. The role of the teacher as the recipient and user of educational information should at the same time become the object of serious research.

2.2.2 The Teaching Profession and Educational Literature

Specialized educational literature, especially periodical, is a significant means for disseminating scientific information to the teachers. The question arises how they utilize this channel.

In Great Britain, for instance, it was found (1965)[2-13] that the most frequent users of specialized educational journals are research and development personnel, scientific staff at institutions of higher education and participants in the guided post-graduate study. The ratio of the numbers of personnel of this category to school administrators and to teachers was 1 : 5 : 71. A comparison of the total number of serving teachers with the average circulation of a specialized educational journal showed that there is a big gap between the results of a educational research and educational practice. The causes of this phenomenon were summed up as follows:

a) the information system introduced primarily for communication between scientists is probably not suitable for other groups (school administration, teachers), i.e., people who represent different categories of information users with different needs,

b) the requirements of teachers for information are not met by scientific literature; this is because the teachers seek answers to practical questions while scientists extrapolate the consequences of their intents into general aspects of the development of the educational process,

c) teachers are not trained nor do they have sufficient experience for work with scientific information, its retrieval, evaluation and application; they are, moreover, too busy; as a rule teachers have very little time to be able to follow specialized publications or even information on them on a wider scale.

The results of the above mentioned Yugoslav survey (1979)[2-27] also showed the influence of scientific educational literature carrying news on educational research to teachers.

The following influences were discerned:

- a c t i v a t i n g (usually indirect): may gradually upgrade the teacher and influence his teaching methods,
- c o g n i t i v e : may crystallize the teacher's concepts on important problems and influence the collective awareness of teachers,
- e m o t i o n a l : may support the teacher's views and attitudes by confirming the correctness of what the teacher is doing, thereby enhancing his involvement and enthusiasm.

As concerns teachers as information users it is mainly important that the discrepencies be resolved between the needs following from their function in the educational system and their subject specialization. In this respect the solution may be based on the specificity of the teacher population, i.e., both of teachers of general educational subjects and teachers of specialized subjects. This specificity forms the profile of the so-called g r o u p u s e r of SDI for the respective school level, this on the whole territory of the respective state. Very important for information distribution in this respect are specialized methodology related journals with a large circulation and thereby also accessibility. Their respective columns allow close cooperation of information specialists, namely in the field of educational bibliography and analytical information, with broad and at the same time selective impact[2-31].

Insomuch as scientific and specialized journals related to pedagogy and psychology are the publication base of educational research, teachers look to methodology related periodicals concerning their respective subject didactics. These periodicals are oriented not only to the dissemination of development and experiment related information designed for the respective group category of users, i.e., teachers with a certain subject specialization, but also for the publication of generalized experience gained in educational practice. General professional problems may then be followed (and published) by the teachers in their periodicals (usually on a weekly basis) published either along trade union, teacher organization or other lines.

In order that the teacher should be able to carry out his profession he must have at his disposal topical information, such as will regulate his work, e.g., regulations relating to evaluation, regulations of educational councils, a survey of pupils' rights, directives concerning their safety and their health as well as a number of legislative measures issued by the educational authorities and methodological/recommendations relating to curricula and to other aspects of the teaching process. Teachers should be provided with complex information on their p r o f e s s i o n and c o m p e t e n c e .

In the Polish survey (1981)[2-33] coordinated by the Institute for Teacher Education (IKN) in Warsaw the responses were evaluated to a range of questions relating to the extent of the teacher's knowledge of information needed for his work. A sample of 100 educational workers proportionally representing all regions provided a set of subjective views which were, however, significant in view of the educational functions which most of them held in school administration, guidance and counselling, etc.

Most of the respondents stated that they knew information needed for their work, however, they did show certain gaps in this knowledge. The causes of such statements were dual: they felt they should have know, were aware of this gap in their knowledge but were reluctant to publicize it, or they believed that they knew all required information, when, however, asked to apply it concretely it became evident that their knowledge was not adequate.

The teachers showed a manifest lack of knowledge of a number of facts allowing the correct evaluation of certain facts and phenomena. Thus, for instance, 95 % of all respondents linked the social position of the teacher with remuneration, 99 % of the respondents had failed to read the topical article published in this respect in the specialized press yet 75 % of them said that they systematically followed the basic periodical in which the article had been published; 25 % said that they knew it and read it occasionally.

A number of respondents did not know the information contained in the evaluation rules published in the official bulletin of the Ministry of Education of the Polish People's Republic. Moreover the rules had been dissaminated by regio-

nal school inspectorates. The knowledge of this information was low even among senior personnel, among guidance and counselling workers who should have good knowledge of all information relating to education.

This was found in another survey (1982)[2-33] when new evaluation rules were published in Poland on instruction from the Minister of Education. The survey showed that the respondents (who included 10 % of vocational school teachers) did not know the basic principles underlying examinations in the practical knowledge of the given subject, so that neither the teachers nor the pupils had availed themselves of the regulations on repetition of failed examination. Only 2 % of the respondents had read anything to the effect in the basic journal, 5 % had read the regulations in the official journal of the Ministry of Education and the remaining 93 % had acquired some knowledge at Educational Council schoolings.

Approximately one half of teachers said they would like to see published in the journals more materials on the organization of the educational work and on the practical technical equipment of the instruction process. School libraries should o p e r a t i v e l y and a c t i v e l y circulate these journals among the teachers.

The Soviet survey of teachers' information needs (1982)[2-1] also found certain similar characteristics in the attitude of this user category to specialized sources. This demonstrated the necessity of using a c t i v e m e t h o d s of publicizing educational literature in the library and bibliographic work. These services still have relatively greater importance for teacher than for specialists of other categories of professions. On their level and forms of presentation (exhibitions, conferences, bibliographic surveys in the specialist press, radio transmissions "Helping the Teacher", etc.) will for a long time yet depend the measure of overcoming the main shortcoming, namely the unsuitable training of teachers in the field of habits of information retrieval.

In Soviet educational librarianship the demand is placed for <u>educating information culture in teachers</u> (see Section 3.4). The postulate is the study of information requirements of teachers in confrontation with provided information services in such a manner as to make these services as

such satisfy the information needs of educational practice (see Section 2.3)[2-20 to 23].

2.2.3 Users of the Services of Information Systems in Education

In the general sense of the term "information needs" is related to the concept of the information user as the attribute of every specialist in the period of the information revolution. This mainly concerns the retrieval and use of scientific or (on a wider basis) specialised information related to the qualification and professional interests, i.e., for gnoseological, communication, decision-making, etc., purposes. Information systems, as a rule factual or bibliographic by character, are by far not the sole channel for mediating information to the user; they only transmit recorded information, possibly make available primary sources. The said principle applies both for conventional systems such as libraries and for computerised data bases.

We also encounter the term "information needs" in the sense of needs of the users of information services provided by existing or projected information systems. The user should be the determining factor for the control of all stages of the information process. The study of the structure of users and their needs is therefore an indispensable pre-requisite for implementing national and international information systems. It is also enshrined in the Unesco long-term programme where methodological guidelines were published in 1981 for the surveys of user needs within the UNISIST programme[2-14].

From the point of view of the evaluation of the function of an information system the question comes to the fore whether the relevant information reaches persons who need it and how this process is organised. Only the recognition of the structure of needs of potential users of the system will allow to programme the optimal composition of its information services. The passive approach to documentation would turn such systems into recording data bases on sources produced by various publishing institutions, sources which are differentiated during processing at the most by their type but

without selection criteria related to their differentiated designation for the respective user category[2-28].

Relations between users of the ERIC system and its services were repeatedly investigated when the system started expanding[2-5]. It was found that critical comments on ERIC services were related to the following problems:

a) For many users in the field of education the use of a data base with several hundred thousand selection possibilities and an annual rate of acquisition of more than 30 thousand items was too complicated despite the fact that its actual use was no more complicated than the use of a traditional library. The problem stemmed more from the fact that users had not been adequately trained for the use of computerized systems and that not even ERIC had in its initial stage included in its activity adequate user training.

b) Users considered part of the ERIC information file to be of low quality. This was because the system recorded total production; the lower quality part could be attributed to certain authors or publishers of educational sources. Stricter selection criteria were therefore introduced at input.

c) The third reservation was the incompleteness of the system whose aim was to accumulate the total sum of the world literature published in English and related to education. The requirement for completeness is still limited by inadequate funds and by shortcomings in the acquisition of materials designed for internal or limited distribution outside of the book market. Here the system, especially with foreign sources, is dependent on what contacts have been established for bilateral exchange by the individual specialized clearinghouses.

From the point of view teachers the main point of criticism is the fact that the services of the ERIC system do not partake of everyday educational activity in the class because these services are not regularly used in schools, yet. Even though it is ever more frequently being consulted by specialists on problem situations in educational policy or in relation to educational research and thereby in a mediated manner it actually does serve educational practice it is not geared to the specific needs of teachers. The system reckons with a lengthy process of forming information habits and considers it to be its task to actively go out to meet the needs of practitioners. Another important factor is that the ERIC system and other sources which do not have the character of relevant and operative answers to queries put by teaching

practitioners do not reach the teacher in the classroom without the intermediary function of a number of factors.

When continuous provision of information based on computerized data processing within the participating countries had been introduced in the late 1970's a survey was conducted among the users of the services of EUDISED system [2-10] which showed that these services are used for the following purposes:

63 % educational research
60 % library and bibliographic services
37 % personal documentation
26 % school administration

Assistance to educational practice does not appear; it seems that the system does not sufficiently solve the problems of teachers who in the inquiry made up more than one third of the respondents.

When the number of national and international studies on the information needs and behaviour of users or potential users in the field of education began to multiply several evaluative documents [4-6] appeared which summed up and analysed the results of existing surveys.

An opportunity for wider international evaluation was provided by the 36th session of the International Conference on Education (Geneva 1977) which discussed the problem area of information services in the field of education. Presented to the Conference was a review study "On the Difficulty of Making Inquiries on the Needs of Educational Information" [2-4] which evaluated the subject and aims of existing surveys. According to the study most surveys were made to identify the extent to which the operations of educational documentation centres meet the needs of the users of their services and what demands the users place on these services. The results are summed up and evaluated with regard to the main categories of information users in the field of education.

Three main user categories are usually distinguished among specialists in education:

a) e d u c a t i o n a l r e s e a r c h e r s who primarily need scientific information of interdisciplinary and international impact; information service provided for this user category is relatively least problematic in view of the fact that it is analogical to that relating to users of other branch systems of scientific information;

b) e d u c a t i o n a l m a n e g e r s and s c h o o l a d m i n i s t r a t o r s who mainly use official information of legislative or regulatory character; recently in connection with the reconstruction of educational systems which has enforced well founded decision making, computerized data bases have been developing in the field of educational information, mostly providing factual information (of socio-economic, financial and planning character, etc.);

c) t e a c h e r s who require educational information relating mainly to the methods and techniques of instruction or connected with upgrading their qualifications.

The last mentioned information user category is internally differentiated according to the levels and types of schools where they work, according to their subject specializations, educational functions, etc. In drafting the project of the computerized information system in the field of education in the Czechoslovak Socialist Republic (1980) attention was devoted to the differences in the information needs of teachers with regard to the school level[3-29]:

P r i m a r y s c h o o l s - the needs of teachers are relatively easily saturated by centrally provided methodological materials and by the teacher library in the school, in special cases by the library of the district pedagogical centre and by the regional pedagogical institute; the thematic range of information needs is broadened at the upper grade in connection with subject specialization but not even here is interest in scientific and technological information an indispensable condition of the teacher s success in his work;

S e c o n d a r y s c h o o l s - the teachers show a relatively intense need for information, s stronger pressure may be observed from the part of more rapidly developing individuals from the ranks of students; it is no coincidence that information centres were set up at secondary v o c a t i o n a l schools which are specialized by the thematic orientation of the school; there are differences between individual fields, schools and inside the schools themselves as concerns the linkage of the subject matter and the latest knowledge; the most active users are teachers or vocational subjects, especially those which train students for the rapidly developing sectors of the national economy (electronics, etc.);

H i g h e r e d u c a t i o n - as for content only a minor part of information needs belongs to educational information; mostly these needs concerns specialist information related to

the respective disciplines taught and teachers satisfy these needs in academic libraries, possibly in information centres of other sectors and branches; the research work of university teachers approximates their information needs to analogical models in research institutions outside higher education so that they also use less conventional services such as SDI, the results of information analyses, etc.; their language skills are wider and they are capable of using foreign sources to a greater extent; a special category are t e a c h e r e d u c a t o r s who have all characteristics of the above mentioned users but because most of their information needs fall under the category of educational information (see 4-21) they are the most significant users of services provided by educational information systems.

With regard to the differentiation of educational personnel the conception of educational information sometimes comes into conflict with the information needs of teachers, namely at the stage when concrete tasks within their educational activity are moulded in a creative manner. The set of information needs of teachers cannot be conceived as an unchanging complex but should be conceived dialectically as a process whose course is determined by the relationship between partial, local or immediate information needs of different user groups and the general and prospective information need of society in the field of education. In this connection mediating mechanisms which may influence the attitudes of teachers to information sources play their role.

2.2.4 Teachers' Attitude to Information Sources

The large range of the users of educational information, the diversity of information needs and the differentiated conception of information services have evidently deterred many scholars from making any attempt at carrying out a survey of demands on information of this type. Not even the documents presented at the 36th session of the International Conference on Education (Geneva 1977) made many efforts to give a synthetic survey but only tried to elucidate certain aspects of teachers' attitudes to information sources, e.g., with regard to the type of sources, media used for information storing, marginal disciplines of education from which information is required, etc. Some investigations also attempted to find an answer to the question whether the production and activity of information centres, e.g., analytical bibliography from periodicals, meet the requirements of educationalists[2-4].

The said inquiries and surveys have been evaluated in extensive study on "Place of Information in the Development of the Education" published by Unesco/IBE (Geneva, 1980)[4-12]. It is viewed as one of the principal problems of information systems in relation to users of educational information that subjects which interest teachers are mostly closely linked with everyday tasks: teaching methods and contents of specific subject areas, the availibility of teaching materials and to a lesser extent more general materials relating to the respective disciplines (initially scientific) and treaties on the policy, objectives and procedures of the educational system (initially administrative in nature).

On this basis the conclusion was arrived at that information systems whose aim it is to meet requirements in the field of educational information yet have to fulfil most of their tasks. Their grave shortcoming is that they lack qualified specialists who would among others devote themselves to the <u>research of information demand</u> and would thus function as the <u>link between information systems and users</u>.

The differentiated information needs and demands placed by various groups of users within the framework of the educational system show that satisfying these needs is to be treated separately. These differences arise more in connection with the use of information than with the content of the information file which should represent a general set of knowledge applicable on a m u l t i t a s k and m u l t i u s e r basis. Information services of mediating nature should bear this in mind.

At the International Colloquy "Teacher and the Science of Education" held by EIC-PET with Unesco participation in Prague (1979) one of the working groups dealt with the problems of using educational information by the teachers[2-31]. The following s p e c i f i c i t i e s were defined as the postulate for the further study of the needs and services provided in this field:

a) The interdisciplinary character of educational information is from the point of view of the information needs of educational personnel of different functional categories and school types and levels complicated by the relationship between marginal discipliness, namely the subject didactics towards the respective fields in the whole area of scientific and technological information systems.

b) The educational information system may provide selective and differentiated information services to the most numerous and differentiated group of teachers through the territorial network of methodology educational facilities; educational information designed for the broader specialist public may be disseminated through specialist educational literature, the mass media and by the system of in-service teacher education, using the specialized profiles of the above mentioned group user.

c) The information flow in the field of education should be reciprocal; the knowledge of educational and marginal sciences the results of educational research and development, the intentions of educational policy and innovation trends in the field of methodology and the technology of teaching

are mediated to teachers while the teachers' own creative activity and progressive experiences are publicized with the aim of their mutual awareness and further developing research and management in the field of education.

d) Next to their role as users teachers also have the irreplaceable role of the tutors of basic information methodology of self-education of future generations; with regard to the societal need for lifelong education it is therefore necessary to give priority to providing teachers with adequate information qualifications well in advance.

The International Colloquy agreed that in this field it is necessary to develop activities in the following directions[2-31]:

- to increase efforts for improving the availability of all information sources, namely data bases for all teachers,
- in the process of the dissemination of educational information to use not only conventional means but also means of modern technology,
- within the framework of pre-service and in-service education to train teachers for the effective use of information; to guide them to study suitable methods of the information process and to transmit them to their pupils,
- to stimulate users for cooperation in the establishment and operation of information systems,
- strengthen the role of the teachers as mediators of information in the process of its reciprocal exchange,
- to involve research institutions in the process of producing and disseminating relevant information usable by teacher in practice,
- to see to it that systems of educational information should devote appropriate attention to complex and differentiated information needs of teachers and that they should help them to efficiently use the provided services,
- to see to it that the research of teachers' information needs and the efficient use of information in the field of education should be put on a sound theoretical basis,
- to elaborate and suggest measures for the gradual establishment of a network of interdisciplinary and interinstitutional cooperation in studying the said problems at national and international levels.

As a follow-up to these recommendations of 1979 KIC-PET included this particular publication in its editorial programme, a survey of information users in its research pro-

gramme (see Section 2.4) and in its programme conference activities (within the Unesco Medium-Term Programme for the years 1984-1989)[4-11] it included the International Colloquy "The Teacher and Information" to be held in Prague in 1989.

Surveys of the information needs of teachers and of problems related to meeting these needs mostly yielded general knowledge. The following Section compares the concrete intents and results of three national surveys which have so far not been comparatively evaluated on an international scale.

2.3 Survey of Teacher's User Profile - Comparative Study (Poland[2-30], UK[2-17,18], USSR[2-20 to 23])

The presented projects have been selected because they have attained to similar findings despite the fact that they had been implemented in different countries and in a different period of time, with different intents and using different methods. It appeared that their analysis would become a contribution towards depicting the teacher's user profile. It was not easy to compare the said surveys namely because of the conceptual and methodological differences which existed between them; an attempt at systematization helped achieve certain parallels.

As concerns the c h a r a c t e r o f t h e p r o j e c t the national case studies differed as follows:

Poland: survey of information needs and behaviour of teachers
UK: survey and information orientation of teachers
USSR: experimental information services for teachers and feedback evaluation.

A s p e c t s o f s t u d y also differed with regard to confrontation intents:

Poland: educational librarianship versus educational policy
UK: educational research versus teaching practice
USSR: services provided by the information system versus teachers' user profiles

Another element which seemingly differentiated the surveys was their f i n a l g o a l. Seemingly because in their final effect all three surveys were aimed at optimizing the use of information by the teacher for the benefit of educational practice which is borne out by the proclaimed targets:

Poland: to improve the organization of the system of educational information
UK: to improve information retrieval and use by teachers at school level
USSR: to introduce a national system of SDI and operative provision of information to educationalists.

2.3.1 Postulates and Intents

Poland	UK	USSR
The need of educational information is growing in connection with the prepared educational reform, namely as concerns documents relating in the science of education with the requirement of the permanent self-education and improvement of teachers. Information needs are partly met by lecturers, school and educational libraries, specialized journals and the mass media. These sources, do not, however, form a system, they are not always selective and do not stimulate the self-education of teachers. The survey was to contribute to a more accurate identification of the teachers information needs. The results are designed for a confrontation with the tasks following from the assumption of the lifelong education of teachers, from the need of permanent progress in the sciences of education, from practical experience and primarily from general educational policy. All this is to contri-	There exists a communication gap between teachers in the schools and research and development. Systems of scientific information do not fully meet the specific requirements of the teachers, scientific literature does not give answers to the practical problems of school teaching. The training and experience of teachers are not sufficient for understanding and assessing highly specialized research reports whose extent, methods and sometimes the style are sometimes a barrier for their practical application. The ways of popularization of research results for teachers are not adequate. Teachers must be motivated to feel the need of being informed of the development and trends in the field of education; their interest must be aroused in the results and aims of educational research. This must be followed up by acquainting them with the methods of information retrieval and use of information sources in such a manner as would help them in their work but would not be	The mediating link for communicating the results of research and progressive educational experience to the user is the branch system of educational information. Teachers are the most numerous group of users. In Moscow alone there are almost 1,200 general education schools which employ 44,000 teachers. The decisive role in improving the educational process is taken by the teacher, on whose work, personality and raising the qualifications attention should be focused. The responsible tasks of our time require of him political maturity, allround education, the mastery of both educational and subject knowledge, the awareness of his own social role, etc. Teachers were hitherto provided with information through traditional library and bibliographic methods. Also important in this respect are institutes for the in-service education of teachers and methodo-

109

Poland	UK	USSR
bute to the optimal organization of the system of educational information which should not only take into consideration the existing aware need of the teachers but should also create favourable conditions for the development of the so far non-existent information needs of which the teachers are as yet not aware. In concrete terms the intent was to identify: - sources of information acquisition with regard to subject and type of source, - methods of information retrieval by teachers, - ways of the dissemination of information among teachers, - factors conditioning their information needs, - desirable forms and methods of information acquisition.	too time consuming. The inquiry paid particular attention to the following areas: - how information is generally communicated to teachers and the use made by teachers of the various sources made available to them, - specific requirements of teachers which they had made in the recent past, and their experience with information retrieval, - teachers' attitude to information, particularly that of educational research and development, - teachers' views on how the information should be disseminated.	logical centres operating within the territorial structure of educational authorities. However, coordination between these two channels was usually non-existant. The Branch Centre of Scientific Information "School and Pedagogy" at the Research Institute of General Pedagogy of the Academy of Pedagogical Sciences of the USSR has experimentally introduced the system of Operative Service to Teachers (called OOU) which requires the investigation of the following factors: - user profiles of individual categories of educational personnel, - identification of their information needs, - feedback evaluation of the experimental information services.

110

N o t e : For notions defining concrete facts and figures (institutions, sources, functions, etc.) more general terms were chosen such as would be applicable to all concerned surveys for purposes of comparison.

2.3.2 Description of Projects

Poland	UK	USSR
The survey was conducted in the town of Lodz in 1977, using the method of a diagnostic probe which requires a representative sample. The following methods were used: questionnaire, interview, observation and analysis of information materials (bibliographic publications and library documents). Of the total number of teachers of primary schools 30 schools were selected, several in each district. The questionnaires were delivered to 450 teachers, a 53 % response rate was recorded, the number of respondents was 240. Interviews were made in the schools with school librarians, 5 interviews with the librarians in regional educational libraries, interviews with librarians of the Regional Institute for In-service Training of Teachers and Educational Research. In the libraries analyses were made of information materials. The teachers responses	The survey was conducted in 14 districts of Lancashire, in Cumbria and in the Manchester and Liverpool conurbations, i.e., in north-west England, in the year 1978. The survey used a questionnaire and subsequent interview with those teachers who had shown interest in such procedure in the questionnaire. Questionnaires were sent out to 80 schools selected such as to represent all school levels from pre-primary to junior colleges and including special schools. According to size the schools were divided into three groups: small (up to 500 pupils, medium (500-1000 pupils), big (over 1000). Of the 1,200 teachers asked 695 responded, i.e. a 58 % response rate 45; teachers were interviewed. In the interview they answered several open-ended questions later verbally analyzed. The questions were formulated with regard to time and cost limits and the teachers' work load, their motivation in view of the frequency of surveys and finally with some tact as regards the professional ability of teachers. Prior to the launching of the survey two obstacles were identified: the teachers lack of knowledge about sources of information which made it difficult to define information needs and the teachers' resistance to the flood of irrelevant information.	The survey was organised in one district of Moscow, the first stage from the year 1980, the second from 1982. The experimental OOU services for teachers of general educational secondary schools were introduced to cover 26 schools and district methodological centres and 57 individual users - personnel of these centres, school principals and their deputies, organizers of extra-curricular and out-of-school educational activities, etc. The survey was based on the evaluation of feedback which was part of the experiment. Information media included: - awareness card with annotation, in batches of 15-20 cards per month; including a feedback coupon of the 1st degree for

111

Poland	UK	USSR
to questions in the questionnaire were confronted with the responses of librarians in the interviews, with own observation and with comments made by lecturers and other interested persons. The investigated sample of teachers was proportional in all aspects with the exception of the fact that respondents mostly work in a big town and thus have easy access to regional educational libraries, institutes for in-service training of teachers and are themselves more or less socially involved. The respondents comprised 91 % women teachers; in the age range of 31-40 years were 54 % teachers, university and college graduates were 35 % and 39 % attended distance higher education courses.	This led to the parallel project aiming at their experimental orientation by means of a travelling experimental display which was given the title "Sources of Information for Teachers" (SIFT). The display included: - a presentation in form of practical tape-slide programme with the solution of classroom problems; - the display panel whose central diagram showed the individual stages of information retrieval and samples of primary and secondary periodicals and reference literature, - the variable section which altered depending on the area in which the display was shown, informing of local sources which relied on contributions from local public libraries, teachers' centres and colleges of education, etc. - an exhibition of the Centre of Educational Research which had organised the whole project with the presentation of services and edge-notched cards on which selected thematic information is stored, - national information sources such as materials of the National Foundation for Educational Research (NFER), the Schools Council, the Council for Educational Technology, etc. The display was visited and used by 750 teachers, in the following year by about 1,500 teachers. The respondents were surprised by the range and availability of information, they responded in a much more enlightened manner to questions related to information needs and information retrieval methods.	ordering a copy or an abstract, - information leaflet with a feedback coupon of the 2nd degree allowing to evaluate the information and to mark methods of its utilization. Interviews were carried out at a demonstration school of the Branch Information Centre which has also installed a permanent display "The School and Information". Every month new information issues were displayed, together with new acquisitions of the central educational library, annoucements of lectures, seminars and consultations, addresses and telephones for requests of prompt information, etc.

2.3.3 Results of Experiments

Poland	UK	USSR
2.3.3.1 I n f o r m a t i o n N e e d s		
a) The major part of information needs was related to the subject specialization - usually linked with didactic application by the teacher themselves; a relatively higher information need was shown by the teachers of humanities.	a) In response to general questions the respondents gave the following answers as related to their topic of enquiry: 33 % lesson content, namely in science subjects 21 % teaching methods 15 % curricula 11 % organization of teaching process, school administration 9 % assessment and testing 7 % educational psychology 4 % others	Individual categories of educational personnel showed interest mainly in abstracts corresponding to their functional specialization. Thus, for instance, school principals appreciated abstracts of foreign literature relating to such problem areas as the practically oriented system of management for school administrators, etc.
b) There were less requests for information relating to general pedagogy; these were practical needs connected with the educational work of the teacher in the class or out of class, educational problems, cooperation with parents, cultural work in the locality, etc.	b) Of the types of sources attention was focused on the use of periodicals which were rank ordered as follows: 90 % educational supplements, of this 30 % regularly 81 % the journal of the teachers' union, of this 40 % regularly	Theacher were well informed of sources related to subject teaching but welcomed information relating to legislation, general educational problems, specific problems of educational work.
c) A specific group comprised teachers attending distance study courses who showed relatively greater interest in information relating to pedagogy, in line with their curriculum.		General interest of teachers was aroused by information material containing model contents of educational meetings with parents, in-

Poland	UK	USSR
With regard to the type of information sources the teachers required: ad a) scientific works and methodology related publications, journal articles, ad b) publicized experience, popular scientific works, ad c) text-books and handbooks. The teachers considered the information they received to be adequate for books 66 %, journal articles 47 %; the form and content of information satisfied them at a rate of 33 %.	34 % research news 43 % the journal specialized by school level, e.g., for secondary schools 70-81 % subject-teaching journals (for higher school levels). Journals related to general education were mostly read by school principals and teachers with long years of experience regardless of specialization.	formation on a display held at the pavilion of education at the Moscow permanent exhibition grounds. Abstract which had aroused the interest of teachers had been prepared from journals and from seminar documents and documents from consultative meetings relating to various aspects of educational work in the school, from methodological directives and recommendations, research results of projects organized by the Academy of Pedagogical Sciences of the USSR, from materials relating to progressive educatioal experiences, etc.

Poland	UK	USSR

2.3.3.2 Information Retrieval

In school libraries teachers can find bibliographic information on areas relating to practical educational problems, materials helping them to prepare for conferences, less for study purposes - this is not made possible by the range of the libraries collections.

Of secondary sources school libraries offer encyclopeadias, publishers' or other bibliographies (not systematically); the teachers may search for information in catalogues and subject card-indexes which are operated by 45 % of libraries and which relate to 5-30 subjects.

Studying teachers mostly turn to university library, municipal public library and especially to regional educational library which will provide them with a duplicate of searches and information from the bibliographic file maintained by the library on 100 subjects which are continuously updated but usually without annotations.

Libraries are at the disposal of teachers in their localities: 100 % public library, 80 % library of the teachers' centre, more than 50 % academic library, approximately 30 % library of the college of education.

Teachers mostly use the public library; in retrieving information relating to a specific subject 18 % used the public library, 16 % the university library, 8 % the school library. Many complained about poor file being at the disposal and delays in obtaining sources through the inter-library loaning service.

Other regular sources of information for teachers are: publications and reports (58 %), specialized educational journals (more than 30 %), radio and television (less than 30 %), in a differentiated way also faculty staff (for school principals), professional associations (for se-

An important active source of selective information for teachers hitherto on an experimental basis are the OOU services provided by the Branch Information Centre. In the observed year the Centre distributed four thousand awareness cards of this 777 coupons of 1st degree feedback were returned through which 60 % of users ordered copies and 89 % requested other interesting materials. The experiment was proven as an effective method of communicating relevant information to teachers.

The analysis of school libraries showed that their collections are mostly oriented to pupils rather than to teachers. Nevertheless most teachers prefer to study in the library of their own school and the acquisition policy of school libraries must therefore be revised.

115

Poland	UK	USSR
Other sources of information are used by teachers in the following rank order: - lectures and practicals incorporated in further education and recommended literature - conferences and meetings with exchange of experience - radio and television broadcasting, reviews published in the press - specialized journals serving to updated knowledge and qualification. It was found that teachers systematically cope with 1-2 titles (60 % of subject teaching periodicals); they expect to obtain selective information on the content of articles published in other periodicals from the information service.	condary school teachers), educational counsellors (for special education teachers), occasionally information from teachers of other schools (for experienced teachers), from school principals and their deputies (for beginning teachers). As concerns the results of educational research it is drawing active interest vocational school teachers, while only 45 % of grammar school teachers took any interest. The sources of such information are mainly: in-service teacher training courses and conferences (25 %), educational journals (12 %), university staff (9 %) and a number of other diverse channels.	As concerns published index bibliographies only a negligible number of these bibliographies reach the teacher in view of small circulation; the coordination of libraries in issuing bibliographic aids is very weak. Most libraries operate along the lines of organizational allegiance (methodology institutions of the local or regional educational authorities, institutes of in-service education, library network) and do not have any interlinkage.

Poland	UK	USSR

2.3.3.3 Use of Information and Suggestions

The teachers most frequently seek information in order to be able to resolve problems and difficulties arising in their everyday educational work.

Studying teachers ranked preparation for examinations or for writing a thesis as the main reason for information retrieval (43 %).

This is followed by preparation for educational conferences (22 %), self-education was another area for information use.

69 % of teachers devote 1-3 hours per week to information; 75 % would like to devote more time to this activity but their situation, work and family obligations forbid them.

In general teachers believe that well organized information services and information processed by scientific methods would make this situation much easier.

The study of influence of educational research on teaching practice showed that with regards to information use 57 % of teachers had been under the influence of the results of research, 30 % had not. This influence had been manifest in: 33 % in changes in teaching methods, mostly in individual subjects, 48 % by broadening knowledge and a deeper understanding of educational work, 11 % new ideas, 9 % changed attitudes, 7 % influencing the teaching procedures.

The teachers believed that their awareness of the results of educational research is insufficient, mainly for lack of time both for information retrieval and for reading research reports.

87 % of the teachers believed that the information process could be better organised; they recommended as dissemination methods: internal meetings, recommendatory bibliographies, annotating research reports, local discussion groups, etc. They also viewed as desirable the setting up of guidance groups for in-

The analysis of feedback of the 2nd degree (evaluation of the relevance of information on the basis of selective abstracting service for teachers) showed that information was used in different ways: in lessons, in out-of class educational activities, in discussions with parents and pupils, at educational readings, at meetings of Educational Council, for self-education, etc.

Teachers gave priority to detailed abstracts from sources because they could use such information in their work in class directly without any modifications.

The following conclusions ensued from the evaluation of the first stage of experimental services for measures to be taken in the second stage:
- specification and appropriate correction of users information needs,
- broadening the range of abstracted sources,

LXV

Poland	UK	USSR
The teachers rated the following forms of information accessing as desirable: - 78 % subject searches and information on sources content - 41 % awareness information on novelties - within 6 weeks of publication at the latest - bibliographic consultations and meetings with specialists on new publications.	formation retrieval and source acquisition. During the SIPT display it was found that the following factors play an important role: - motivation - attractive presentation of information, relevant problem area, proceeding from concrete to general matter, etc., - the knowledge of information services and aids - the surprising revelation was made, namely that none of the teachers had known of the existence of the national educational bibliography (BEI), - methodological experience with the efficient use of the services of information systems and skills for retrieving and using information sources.	- unification of information media, - introduction of regular feedback from users, - methodological elaborating of all stages and components of the information process, - reducing the number of schools to 15; of this one serves as the demonstration school for the Branch Information Centre, - extending users' categories by: subject teachers, primary level teachers, heads of after-school facilities, senior leaders of young pioneer groups; a total of 43 user profiles, of this 22 from the demonstration school.

2.3.4 Conclusions and Recommendations

Poland

a) The results of the survey helped recognize the state of teachers information needs but are not sufficient for ascertaining whether these needs are adequate to the tasks of the teacher of today s school and the model of the teacher of the future school.

b) Information needs related to educational work in the school are regulated by curricula and directives issued by the educational authorities and by the applied forms of in-service education of teachers. All the respective regulatory documents should be taken into consideration when determining the range and scope of information services.

c) The information needs of studying teachers ensue from curricula and syllabi. The determination of the range of services for this group of users requires that an analysis be made of these educational documents.

d) Information activity should not only meet existing needs but should arouse

UK

As concerns the attitude of the teacher to information there has been a shift of the conception of educational information to the fore of attention.

b) Acquiring knowledge of the sources of educational information and of the strategy of information seeking should form an integral component of initial teacher training.

c) The methodology of information use should be integrated in in-service teacher education, within the experience and subject interest of teachers.

d) Systems of educational information should go out to meet the information needs and interests of teachers. An organized network of reference centres should be set up which the teacher could contact for methodology of information use and information proper.

e) Next to the national periodical index bibliography (BEI) an abstracting service should be established specifically oriented to meet the needs of teachers and a current awareness service oriented to the differentiated needs following subject, type or local interests; with this is connected the demand that school libraries be operated by qualified librarians.

USSR

The evaluation of the first stage of the operation of the experimental OOU services for teachers showed that it is an adequately effective way of communicating information to the recipient. Planning of further stages must take into consideration the existing experience, e.g., a brief annotation on the awareness card does not suffice to meet teachers needs. In case the teacher is interested he must seek information in the primary source which is too time demanding and is often not technically accessible. The extended abstract on an information leaflet proved to be the most suitable form of information presentation.

Information services for teachers should be differentiated using various means of individual, group or mass information provision.

a) Individual information provision is implemented through direct information services, personal communication or in writing. This method is effective because it allows the study of individual information needs and interests of users.

b) Group information provision is oriented to a homogeneous category of users and is implemented all at once for the whole group. This con-

Poland	UK	USSR
new needs. It thus also requires the implementation of new active forms of information services which would be more differentiated. e) Educational information should not be restricted to bibliographic description but on the basis of documentation analysis should provide teachers with detailed abstracts of current educational literature; these abstracts should be easily available and should replace primary sources. f) Librarians of school and educational libraries and in institutes for in-service teacher education should be provided with a systematic supply of information issues, bibliographic indexes and documentary cards appropriately classified so as to allow them to keep their own card files. This will allow to conduct a broadly conceived information activity which may have a motivating character.	f) It is recommended that a set of strategies be developed for the presentation of the results of educational research to teachers, the communication of these findings through several channels, instructing teachers on the problems of research and information sources including their use, and the development of information services specially designed for teachers. g) As concerns the further research of teachers information needs it is not considered worthwile to repeat the survey in another region or with a larger sample of teachers; it would be useful to study two specific areas: the application of research results to practice in the classroom and the use of information by teachers including the integration of information in educational work with the aim of monitoring information flows from different sources with the main focus being directed towards understanding the information process from the viewpoint of the recipient rather than from that of the provider.	cept of the group (collective) user with regard to subject, school level and educational function allows differentiated, selective and operative services to be provided on a wide scale for a whole territorial entity. c) Methods of mass information provision may be used in such cases where information is designed for all teachers in a school, i.e., for all user categories. This is, for instance an exhibition of information publications, lists of the literature, e.g., new acquisitions, in the field of education or pedagogy, etc. Within the demonstration school it will be suitable to appoint one teacher to operate as the liaison between the Branch Information Centre and the individual and group users at the respective school. d) The results of the survey established the basis for the introduction of active operative information services for teachers on a nationwide scale. This will speed up the introduction of new knowledge in the work of teachers in the classroom and in extra-curricular activities. e) Satisfactory information offer from the part of the system of educational information can only be achieved by integrating all elements of the educational community, especially in-service education of teachers where the Branch Information Centre has a coordinating function.

2.4 The Use of EIC-PET Information Services

In the evaluation of information priorities in the work of the European Information Centre of Charles University for Further Education of Teachers (EIC-PET) at 2nd Consultative Meeting held in Prague in 1983[4-11] the participating experts among others discussed the question of relations between information *about* teachers and informations *for* teachers. It was generally accepted that EIC-PET collects information which insofar as it is to serve the development of teacher education in the participating countries of the European region must be designed not only for research and decision-making personnel in education but also for the teachers themselves, no matter whether they participate in this education as educators and methodologists or as students.

The preceding EIC-PET international colloquy on "Teacher and the Science of Education" (Prague 1979)[4-27] in the report of one of the working groups placed emphasis on problems following from the conflict between the scientific opinion and intuitive and empirical approaches to the introduction of information services: "This contradiction should be mitigated through the research of the information process and by improving the methods used for evaluating its efficiency. Research in the field of the teachers' information needs should be put on an appropriate theoretical basis."

As a result this study also devoted attention to the results of the survey of profiles, information needs and requirements placed on information service conducted among users of EIC-PET in the years 1979-1981, in form of an international inquiry.

More than 500 questionnaires were sent out to users in Czechoslovakia and in other countries with a response rate of 34 % (from abroad relatively higher). The results of the survey were grouped as follows:

- users' profiles with regard to type of institution, area of competence and geography,
- information needs with regard to subject interest of users,
- demands on information services as concerns content, method and forms.

Within the research project "Optimization of the Information Process in the Field of In-service Teacher Education"[4-29] these results were further compared with the results of the bibliometric analysis of the information supply of EIC-FET in the years 1970-1982.

2.4.1 Profiles of Information Users

Table 1 - USERS BY TYPE OF INSTITUTIONS

Type of institution	% of responses[x]
Higher education institution	53
Research and development institution	28
Library, information centre	15
Central body	12
School (primary and secondary)	8
Publishing house	6
Methodological institution	4
Production enterprise	2
Trade union organization	2
Other type:	4 total
- INSET institution	
- computer centre	

Table 2 - USERS BY COMPETENCE[xx]

Field of Competence	% of responses
Educational research and development	70
Organisation and methods of teacher education	61
Student teachers	43
Teaching practice	41
Educational administration	37
Other fields:	34 total
- trade union representatives	
- university teachers	
- students in adult education	

It is interesting that only 8 % of responses had come from primary and secondary school teachers while a total of 41 % had come from users in the field of teaching practice. Apparently most of these users were university teachers with regard to 53 % of answers given by this category.

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x) The percentage was derived from responses to questions which were not exclusive, i.e., respondent could assign to several areas.

xx) The questions were formulated quite generally with regard to various content of different educational functions in connection with diverse typology of institutions in the systems of education in different countries.

Table 3 - GEOGRAPHICAL STRUCTURE

State	% of respondents[x)]
Bulgaria	14
Sweden	12
UK	11
USSR	10
FRG	7
GDR	5
Poland	5
USA	5
Denmark	4
Yugoslavia	4
Switzerland (incl. IBE)	4
Belgium	3
Finland	3
the Netherlands	3
Hungary	3
France (incl. Unesco)	2
Italy	2
others	3 total

x) excl. Czechoslovakia

The geographical structure of respondents did not basically differ from the provenance structure of acquired sources (ascertained using the bibliometric method)[4-29] as concerns the representation of the individual countries. What differed was more their distribution with regard to their activity as providers or users of information.

As concerns information supply to the EIC-PET rating relatively higher were the USSR, international organizations (Unesco), Poland and Hungary; rating higher with regard to the use of information were Bulgaria, Sweden, UK and FRG.

This structure, however, changes dynamically in dependence of extending the range of EIC-PET information services.

2.4.2 Information Needs or Preferences of Users

Table 1 - GENERAL CONSIDERATIONS OF INSET

Aspect	% of responses
Broader context of educational systems and/or reforms	74
Organization, methods, forms and institutions of INSET	66
Types and levels of schools	41
Teaching subjects and disciplines	27
Categories of educational personnel	15

Table 2 - SPECIFIC ASPECTS OF INSET

Aspect	% of responses
Teacher participation in R+D	77
Educational creativity	68
Teacher self-education	62
Exchange of experience	50
Educational information for teachers	45
Methodological aid to INSET	41
Beginning teachers	37
Teacher associations	32
Other:	
- salaries and career of teachers	
- activities of international teacher organizations	
- teacher status and education in other countries	

The information supply according to the results of the classification analysis of EIC-PET bibliographies[4-29] prevailed in the forms, methods and institutions of INSET. Of specific themes the beginning teacher ranked first and of the educational professions, next to teachers, school administrators and inspectors.

On the other hand of the themes in demand, e.g., information on research in INSET published in the literature were sparsely represented in the bibliographic supply.

Table 3 - INSET CONTENT ORIENTATION

Orientation	% of responses
Training in pedagogy and psychology	75
Ideological and political education	47
Moral education	35
Environmental education	31
Education for peace and international understanding	27
Art education	15
Other:	11 total
- technical, mathematics, logical education	
- use of educational technology, information technology, computer application	
- information and literary skills	
- futurology and preparation for future	
- lifelong education	
- education of minorities	
- educational administration and economy, material and technical provisions	

As compared with the results of the classification analysis[4-29] the following relative preferences were ascertained: the pedagogical and psychological training of teachers as the basis of their professional profile and ideological, and political education including peace education. In verbally expressed proposals the interest also appeared in inculcating various aspects of information skills.

The information services provided by MIC-PET will further be improved on the basis of a detailed analysis of comparative studies of relations between users and information sources (see Section 1.4).

2.4.3 Requirements for Information Services and Cooperation

Table 1 - INFORMATION RELATED TO EIC-PET ACTIVITIES

Type of activities	% of responses
Information on EIC-PET concepts	78
Information on international events organized by EIC-PET	78
Bibliographies	69
Publication activities of EIC-PET	62
Library acquisitions	36
Chronicle, press review and miscellaneous annoucements	25
Other:	
- mission reports	
- research reports	
- selective subject searches	

Table 2 - COMMUNICATION ON INSET IN THE EUROPEAN REGION

Type of facts	% of responses
Sources of educational information	72
Comparative international studies	65
Significant international events	64
Interesting national experience	62
Important official documents and legislation	56
Articles in specialized journals	46
Institutions and organizations	35
Significant research projects of supra-national importance	25
Other: distance learning programmes	

Unexpected interest was shown in bibliographic information provision (table 1) as well as in sources of educational information (table 2). Even previously we had encountered the phenomenon of the users inadequate knowledge of ways of information retrieval; EIC-PET provides not only information services but also often provides methodological and/or reference assistance of this type.

Table 3 - INTEREST IN TYPES OF INFORMATION SERVICES

Services	% of responses
Current bibliographical awareness	58
Reprography (microfiche) availability	52
Retrospective searches from EIC-PET file	44
Other: audiovisual aids, etc.	

As concerns the types of services provided the inquiry did not show anything new; users prefer services in the order in which they have been introduced by EIC-PET. It is difficult to assess whether this really shows users' preferences or whether the responses only show the time sequence in which the users became accustomed to the services provided.

Table 4 - INFORMATION RETROSPECTIVITY

Search depth	% of responses
up to 2 years	46
up to 5 years	51
more than 5 years	3
(weighted arithmetic mean) = 3.7 years	

The retrospective depth was surprisingly low. The average was unusual in an area which belongs more to the social sciences where rapid exchange of information is not expected. It is believed that the cause lies in the considerable acceleration of the communication process in the field of INSET in the European region since the 1970's. At the time of the survey only 3 % of respondents acceded to information older than 5 years.

135

In view of the fact that EIC-PET is beginning to develop the scientific analysis of information the survey also studied the interest of educationalists in active cooperation in the said field. More than 50 % showed interest in such cooperation, of this almost two thirds were foreign respondents.

Table 5 - INTEREST IN ACTIVE COOPERATION

Forms of reciprocity	% of responses
Provision of primary sources for the personal library	37
Publication of cooperation results	29
SDI according to individual profiles	23
Other: inviting to international events	

Next to the use of priority information services the respondents showed interest in the presentation of the results of their cooperation with EIC-PET, this either by having their author abstract or other contributions, etc., published in EIC-PET series and/or by being invited to present their experiences at international conferences which EIC-PET holds with Unesco participation. The ambivalence of the role of the user and producer of information was again manifested.

The results of the survey of information users contributed towards the identification of subjective information preferences of users both with regard to the content of information and with regard to forms of its provision. On the basis of the comparative studies and expert evaluations EIC-PET will gradually optimize its information activity to the benefit of the educational and information needs of teachers on an international scale. Doing this it intends to develop one of its priority information services - the function as i n t e r m e d i a r y between systems of educational information and end users of information in the field of INSET[2-32] whose mainly educational professions of various levels and specializations are concerned.

x x x

136

Finally it would be appropriate to recapitulate the main shortcomings which were found between the services provided in the sphere of educational information and the information needs of teachers.

In compliance with the conclusions of the 36th session of the International Conference on Education (Geneva 1977)[4-17] this involves two problem areas, i.e., tasks facing two sectors. The first concerns information systems of all types and its object is to stimulate the use of information[2-9] and the differentiated approach to different user categories[2-28] - this was the main topic of the 42nd FID Congress in the Hague (1984)[4-13].

The second problem area concerns educational systems and involves the education of information users in different life stages and for different application levels. In the initial stage this task was only tackled by informatics and practice was mainly concerned with training users of the given information system for the use of its services.

Later on user education in team coordination drew wider attention as general preparation for work with information sources and information retrieval. However, only recetly has information literacy as an attribute of education being dealt with also by pedagogy, among others also in connection with the incursion of information technology in the school. An explanation of the danger of such a one-sided concept with regard to the complexity of the problems of information training will be attempted in Chapter 3.

2.5 Literature - Chapter 2

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3 INFORMATION LITERACY AND THE SCHOOL

3 INFORMATION LITERACY AND THE SCHOOL

3.1 User Education within Information Policy

Surveys of information users have shown that their needs are often contravened by their behaviour in information retrieval and information use. The practice of information systems has also shown that most of the services which they provide are effectively used only by a small proportion of potential users. Information users are an integral component and end link of the chain of specialized information communication. Insofar as they do not know how to search for relevant and accessible information, information activity will be futile and their objective information need shall remain unsatisfied.

3.1.1 International Activities

The problems of educating personnel in the field of information are increasingly in the centre of attention since the end of the 1960's. Among n o n - g o v e r n m e n t a l organizations initiative is being developed mainly by the International Federation for Documentation (FID). In 1970 its Committee for the Training of Documentalists (FID/TD) was changed into the Committee for Education and Training (FID/ET) which in its competence includes both the training of information workers and the education of information useres. For this was established the working group for Training of Users which in its work considers the needs of the development of society and the information needs of individual user categories.

The 42nd Congress (the Hague 1984)[4-13] was devoted to the topic "The Use of Information in Changing World" and within the pre-congress workshop the FID/ET Committee organized a discussion on "Curriculum Development in a Changing World". This discussion was focused on questions of information training of information workers and users, and on problems of training tutors for both categories.

In the field of education for the efficient use of libre-

ry services significant tasks are fulfilled by the International Federation of Library Associations (IFLA) - see Section 3.3.

As concerns i n t e r - g o v e r n m e n t a l o r g a n i z a t i o n s the representatives of the CMEA Member States met in 1968 in Bucharest at an international symposium on the Training of Users and the Study of User Needs[3-23]. The main coordinator of their programmes in the field of the education for information work then became the International Centre for Scientific and Technological Information (MCNTI) in Moscow. The training of personnel is one of the main aspects of the building of the International System of Scientific and Technological Information (MSNTI). In 1971 the Centre published a basic list of institutions and curricula in the Member States which completed the FID Directory of 1969.

MCNTI also provides a forum for the exchange of experience among teachers of information theory and practice working both in school systems and in adult education, at bi- and multilateral working seminars[3-13].

The integration element in this field is Unesco[x)] which since the first half of the 1970's has within UNISIST been devoting special attention to the problems of education related to information users and to work with information. The objective is to interlink all efforts and programmes of methodological assistance to the education of existing or potential information users. The aim of this activity is to help users to

- discern their information needs and to formulate these needs,
- effectively use information services on the basis of knowledge of existing systems and
- developing information skills in information retrieval and use.

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x) Its programmes and measures are contained in the individual volumes of the Unesco plan and budget for two or three year period, possibly in the medium-term plan, which are approved by the respective sessions of the General Conference.

The international UNISIST programme distinguished two basic terms in the field, namely:

a) e d u c a t i o n relating to the value system, i.e., the formation of positive attitudes to information need and information retrieval motivation for the use of information, as well as to the creation of information sources; the comprehension of the information systems construction, the general aspects of their structure and possibilities of their logical operations; towards developing practical habits of using technical information means and mastering methods of access to data bases,

b) t r a i n i n g conceived as the process of inculcating skills for the identification of relevant sources, for search strategy and for organizing information for concrete use; for acquainting users with the subject area, structure and organization of concrete systems, their information languages and with indexing methods, formulating search queries and the evaluation of information output relevance.

International discussions on the conception, methodology and implementation measures and on compiling handbooks for the systematic education of information users within UNISIST resulted in partial programmes for user training in individual countries and in individual fields being mostly pragmatically oriented towards inducing users to use the collections of the given special libraries or to search for information on the basis of concrete branch bibliographies. Very rarely were these programmes founded on a research of information n e e d s on the one hand and of the b e h a v i o u r of information users on the other.

The complex solution of the problem required that answers be sought to two main questions: does the user know that he needs information and if so what is he doing to meet this need. This was to be followed by that stage of the project which was to test the application on the defined procedure. One of the priorities of this process was the introduction of information user education into curricula of universities,

vocational and technical schools and other educational institutions.

Within the Unesco General Information Programme (PGI) almost 30 international courses were implemented in the years 1979-1980 ranging from short-term updating seminars to one-year treining programmes, this in cooperation with the central bodies of the host countries, attended by 20-30 people, exclusively from the developing countries. In order to generalize the experimental experience Unesco issued in 1981 the Guidelines for developing and implementing a national plan for training and education in information use[3-42].

The 21st session of the Unesco General Conference which met in Belgrade in 1980 adopted within the PGI the following measures with regard to user education:

- Endorsement of studies designed for the evaluation of user requirements and the implementation of specialized training programmes for information users in different fields, especially practitioners in the field of science and technology, with a view to seeking new approaches.
- Endorsement of the introduction of systematic training in the use of information sources in the curricula of educational institutions, namely universities and technical colleges.
- Acquainting competent personnel at highest decision-making level with the importance of information, especially that information which is contained in information files and archives of their own institutions, for their own work as well as for all aspects of national life and development.
- A survey of problems relating to the development of methodology of the training of librarians and information technicians for communication with information users, at the level of basic orientation.

In recent years an ad hoc Committee for Education and Training was set up as a consultative body of the PGI. The Committee is dealing with general policy and the support of regional training institutions and national programmes of education for information specialists and information users.

The Committee annually sponsors 10-15 study courses or seminars devoted to various aspects of information activities at different levels. It closely cooperates with the FID and with this Federation it puts out a quarterly bulletin.

The PGI also supports an international clearinghouse for information training and educational materials established by FID and providing teaching aids to interested institutions, especially in the developing countries.

3.1.2 Unesco Recommendations

As early as in the document concerning the information policy of 1974 three main tasks were defined within UNISIST Programme for national systems of information user education in the Unesco Member States:

- basic training for the use of existing information souces
- obtaining feedback from users on the basis of the research of information needs,
- involvement of the widest possible range of users in every new experimental service.

In 1976 UNISIST recommended the following measure for implementation in Unesco Member States:
National policy in the field of user education should be formulated as an integral component of nationwide information policy in harmony with national educational policy.

As concerns the provision of teachers for user education it should be based on qualified lecturers of library and information schools, specialists of national libraries and documentation centres, public and special libraries or international organizations. Their adaptation to these tasks may be facilitated by gaining experiences, aids and fellowships in countries which have some experience with the education of users and by organizing short-term courses and visits of more experienced colleagues.

The UNISIST Programme in 1977 distinguished national activities with regard to:

a) e d u c a t i o n a l p o l i c y - which is to influence through education the behaviour of students with regard to the use of libraries and information services,

b) i n f o r m a t i o n p o l i c y - which emphasizes the training function of libraries and information systems.

The education and training of information users is considered to be the key problem of national information policy whose solution must go hand in hand with the development of information services and the research of information needs.

Information user education not only influences scientific and technological development and the general level of civic information awareness but also has a very important function at all levels of the educational system. At primary and secondary schools it helps clarify the role of information in the solution of problem situations; with regard to general education goals it equips the students for their specialized development and for the development of their respective sphere of interest after the compulsory education by informing them of the potential contribution of information services and sources. This process must go hand in hand with training in search skills such as will show the students the benefit of information user education in practical situations.

UNISIST defines demands on information literacy for individual education levels as follows:

P r i m a r y e d u c a t i o n

- locating a book in the library
- using library catalogues
- principles of the classification of literature
- orientation in the book structure
- alphabetical ordering and index compilation
- use of routine reference literature
- structure and use of dictionaries
- structure and use of encyclopedias
- structure and use of maps and atlases
- becoming acquainted with libraries in the respective locality
- types of the literature with regard to use, e.g., text-books, monographs, handbooks, yearbooks, etc.
- newspapers, their respective columns
- journals and seriels - specificities of article literature
- bibliographies

S e c o n d a r y e d u c a t i o n

- knowledge and use of official and legislative documents
- non-book materials - reports, theses; films, microforms; records, audiovisual materials, etc.
- secondary sources and their use
- bibliographies, their characteristics and differentiated use
- the national library, the university library, main branch libraries in the respective country
- national and international organisations within the field of information services.

The integration of education and training of information users in general educational goals and in educational practice is important at all levels. It begins with a change in the attitude of educational personnel. Within the sector of education teachers and school administrators represent the priority groups for the implementation of the programme of information user education. Their training should be implemented well in advance of the general introduction of actual information user education at schools of all levels - see Section 3.4.

To achieve this it will be necessary to coordinate and involve the activity of all educational bodies, namely in the development of curricula, observing the principle that the students should acquire search skills. At national level it is therefore necessary to prepare for school administrators procedures for incorporating information user education programmes in curricula.

As concerns h i g h e r e d u c a t i o n, within UNISIST Ministries of Education in the Unesco Member States were given type programmes of information user education including questionnaires for feedback, to be used at all institutions of higher education in the years 1980-1981. The centre of attention is shifted from the educational aspects to the training function of information user preparation, in linkage with study fields. Under-graduates should attend information user training as a follow-up on general information user education at lower educational levels. On this basis higher education can to a greater width concentrate on the problems of the intellectual development of the student and to a greater

depth on the information aspects of the student's field of study. So far much time has been wasted on developing such habits in students which they should have mastered before enrolling in higher education.

The information user training of university/college students should proceed from the skills acquired at the secondary schools, i.e., from their ability to acquire, understand, transform information in the field of their creative competence. They must have a good knowledge of institutions where they can find the information needed, they must know basic sources from which they can acquire relevant information and should master methods of the information use in practice. With this is related the knowledge of the creation of new sources and methods of their dissemination to other users. They must also be acquainted with the general tasks of information work which will help them understand the significance of their cooperation with information workers and systems.

Information training in higher education in international recommendations (Unesco 1977)[3-8] is assumed in roughly the following scope and content:

- Aims of training o students as information users (2 hours)
- Information science as a newly developing discipline of interdisciplinary character, its subject, significance and tasks (2 hours)
- Scientific information and its role in modern life; structure, communication and role of scientific information in different fields of human activity (2 hours)
- Information sources and their value for the user - creation, types and uses; information files for different users (4 hours)
- Information systems as effective tools of communicating information - structure, type and function of individual systems and subsystems (4 hours)
- Information institutions as organisational bases of information services - main categories, general organization of information institutions and differentiated information services (4 hours)
- Information workers and information users - their function and cooperation (2 hours)
- Methods of information acquisition - catalogues, reference literature, bibliographies and other tools helping users to retrieve relevant information (2 hours)

- Mechanization and computerization of information activities - information system outputs based on user requirements (2 hours)
- Psychological aspects and scientific methods of intellectual work applied by information users in the acquisition, transformation and use of information for decision-making, research and other creative activity (4 hours).

The 1980's signify a qualitatively higher stage in the development of national systems of information user education, namely after the issuance of the above stated guidelines (1981)[3-42] which contain the following chapters:

- Conception of user education and training
- Definition of their purpose and aims as the strategy of planning user education programmes
- Identification of means for reaching the set targets as planning tactics
- Measures for implementation of information user education.

In the Unesco programme for the period 1984-1989 the support provided to Member States in the field of the education of information users is incorporated as follows. Materials are being prepared for the training in the field of the use of information materials in schools of all levels. Emphasis is put on such materials which could be used in institutions training for the teaching profession with the aim of preparing them for developing in their pupils and students habits of searching and using information in problem situations. Also being prepared is a model kit of aids for the experimental training of users in different fields. Another kit is designed for information specialists in the developing countries to teach them to stimulate the interest of information users and to involve them in designing, operating and evaluating data bases and specialized information systems.

3.1.3 Examples of National Programmes and Services

U S S R

In the Soviet Union emphasis is generally being put on lifelong education; any specialized or higher education qualification is practically impossible without further education. Students are required to be more independent in their work with information sources. Continuity between school education and subsequent self-education is achieved by information user education; great attention is attached to teacher training for the fulfilment of these tasks.

In the USSR information user education is integrated in the curricula on the basis of the Directive issued by the Minister of Vocational and Higher Education of the USSR no.I-108 of 1960. It has been implemented as the subject "Retrieval and Use of Scientific and Technological Information". Since the 1960's d e p a r t m e n t s o f s c i e n t i f i c i n f o r m a t i o n have been established at institutions of higher education. These departments operate on an interdisciplinary basis and provide students with a common core minimum of information knowledge and the foundation of information methodology.

The head of Department of Scientific Information at Lomonosov State University in Moscow Prof. A. I. Michailov emphasized already at the FID Conference in Rome in 1971 the dependence of the rate of success and effectiveness of information services on user education. The Department also has the function of an information centre which on the basis of VINITI[x)] files and services provides selective information to research and educational personnel as well as students of the whole university. Apart from this the Department also operates as the training centre both at the professional level - for information specialists with the elective combination of information science with another discipline, and at the optional level for students of any specialization as well as for their lecturers in the capacity of information users.

x) i.e., the All-Union Institute of Scientific and Technological Information

The said forms of information user education in the USSR have been proven to such extent that the t e x t - b o o k written by Professor Michailov (Moscow 1970)[3-21] was recommended for international attention and was published in English by FID (1971)[3-22] as the information minimum for the graduate and was then translated into many languages and modified in different countries.

This tradition underlies the operation of the system of training information users in the USSR. The Institute for In-Service Education of Information Personnel (IPKIR) has international scope and one field of its curriculum is the specialization of information specialists in the problems of informations users, namely their training for various in-service education forms.

U n i t e d S t a t e s

In the USA the Clearinghouse for User Education was set up in 1971. In 1976 the institution was given the status of a national centre called LOEX. Its aim is to collect, process and disseminate information and materials related to user orientation implemented by academic libraries; aid to libraries in research attempts in the field; encouragement of the sharing of materials and information; publicizing the library orientation whenever and wherever possible[3-17].

During its first three years the Clearinghouse was funded from local resources; in 1975 it was granted a subsidy for the following three years from the Council on Learning Resources. Since 1978 it has been winning such a reputation in user education throughout the United States that it has been able to operate on the basis of subscriptions to its information services and from conference fees. LOEX sets an annual subscription for complete services including information bulletins, search services, access to data bases, etc.

Factual materials are collected usin standard questionnaires and by compiling indexes; it is related to methods used, user profiles, fields of their information needs, etc. The Clearinghouse answers an annual 2000 requests and queries; the LOEX data base contains than 15 thousand records. It publishes

the LOEX-news, index bibliographies, surveys, etc. It reprographically accesses primary sources which it centrally collects, it also provides methodological and coordination assistance in the network of follow-up centres in the individual states with subject or local specialization. In its area of competence it is also involved in international cooperation especially with similar national centres in the research of information users.

U n i t e d K i n g d o m

The Research and Development Department of the British Library in 1974 established the Review Committee on Education for Information Use. In 1976 this Committee recommended the appointment of an institution to be responsible for the education of users, for the collection and dissemination of information on activities in user education. Six academic libraries competed for the right to provide for such services. The competition was won by Loughborough University of Technology Library for a period of three years, later extended to four years. Over this period of time this British centre was funded from the state budget[3-17].

The centre issues publications, an index bibliography from its data base and provides information services to users. It moreover has personal contacts with the staff of academic libraries and documentation centres and faculty staff and acquires information otherwise unpublicized. Factual information is collected through questionnaires with subsequent computerized processing of indexes and publication. The centre also collects teaching aids and audiovisual materials, text-books, monographs, research reports and journal articles.

The main medium for information dissemination is the INFUSE information bulletin which publishes new acquisitions and requests for individual types of materials and information from librarians. The centre also helps in the preparation of training courses, provides lists of relevant sources, samples of teaching aids, bibliographies and addresses of people who in the recent past organized similar courses. It thus operates as the liaison between various institutions and specialists.

The data base of this British centre for user education contains several thousand records. The computer output is provided with microfiche equipment which allows the dissemination of collections to more distant places; in the subsequent stage the system was switched to on-line operation.

The centre publishes bulletins and bibliographies and also partakes of organizing INFUSE conferences. An international forum has thus been established exclusively for discussing questions related to information users. The F i r s t Conference on User Education (Cambridge 1979) was focused on the state and prospects of user education, concentraining on higer education.

The S e c o n d Conference (Oxford 1981)[3-9] was broadened to cover library user education at schools of all levels - dealing with the concept and policy of information user education, experimental and development experience, methodology and teaching aspects of the cooperation between librarians and the teaching profession, e.g., in the orientation of user education in schools, training of information skills, participation of school librarians in user education, - see also Sections 3.2.3 and 3.3.3.

The T h i r d Conference (Edinburgh 1983) was centred on the broad problems and aspects of training information skills in school pupils.

The centre also provides methodological and consultative services relating to user education; this is mainly guidance for librarians at institutions of higher education who have no pedagogical qualification but who are currently engaged in user education in the form of the so called personal training. The centre provides them with theoretical knowledge or generalized experience and they apply it with regard to their own knowledge of local conditions, needs, user behaviour, etc.

C z e c h o s l o v a k i a

The education of information users has been incorporated in the Programme of State Information Policy for the scientific and technological development of the national economy of

the Czechoslovak Socialist Republic since the five-year plan 1971-1975; responsible for designing the project within the framework of a research project was the Department of Scientific Information and Librarianship at Charles University in Prague[3-23]. The problem area of the organization of the system of training the users of specialized information was divided into two units:

a) user training in the e d u c a t i o n a l s y s t e m within the framework of school curricula; this was implemented by the national Ministries of Education of the Czech Socialist Republic and the Slovak Socialist Republic,

b) the training of main user categories implemented mainly within the framework of various forms of i n - s e r v i c e e d u c a t i o n of specialists and also through the branch systems of scientific and technological information.

The gradual implementation was launched in the five year plan 1976-1980. The following principles were observed in the introduction of the system of information user training as the basic postulates of the project[3-20]:

1) The rational information training of pupils and students must correspond to the tasks of the current reconstruction of the educational system and must respect their status as active participants in the teaching/learning process which is conceived as a specific information process. Students will cope with the retrieval methodology and will also learn to practically use relevant information for subsequent self-education.

2) Training in the field of information should be in harmony with corresponding education in the field of the world opinion and ideological and political education; the user must be able to correctly evaluate information, this both information used at work and information which he himself will produce in the creative process.

3) During instruction the user must be trained for the intensive use of computerized information systems serving science or management and for cooperation with these systems in all stages of the creation, transformation and utilisation of information.

4) Both pre-graduate and post-graduate training of users must be based on the study of the theoretical foundations of general and applied informatics. This training must correspond to the principles of the Programme of State Information Policy and must use experiences from the cooperation with information systems, services and centres in the socialist countries, with the International System of Scientific and Technological Information of the Member States of CMEA on the basis of MCNTI and with the world UNISIST system.

5) Pre-graduate information training and the post-graduate training of specialists, as well as the respective education of lecturers for such training should be supplemented with the professional training of information workers. Such unity will increase the effectiveness of the educational process and of the decision-making process in the fulfilment of tasks related to creative, productive, administrative and other social activity.

The manner in which these principles have been implemented in the education of school children and youth is discussed in the following sections of this chapter.

The main coordinator of the education or personnel in the Czechoslovak information network is the Institute for In-Service Education, as part of the Centre for Scientific, Technological and Economic Information in Prague. Apart from publishing teaching aids and text-books, providing methodological assistance and organizing seminars in the field of the professional in-service education of information workers the Institute orients its activity also to the organizers and lecturers in the field of user education and provides a forum for the exchange of experiences with this education, this also to specialists working in the educational system.

In 1978 the Institute organized a seminar on the training of students in higher education for creative work with and the use of scientific information [4-32]. In 1980 this was followed by a seminar on the training for the use of specialised information at secondary school level [4-33]. Such meetings are usually attended by both information specialists, namely heads of academic of school libraries and information centres, as well as educationalists from different fields. The Institute thus operates as an integration factor for solving the interdisciplinary task concerning user education in Czechoslovakia.

The Department of Scientific Information and Librarianship at the Philosophical Faculty of Charles University in Prague in orienting diploma works continuously develops research and conceptual work in the field of information user training, this both in-service and at schools of different levels, as well as in the field of training teachers for this activity. Thus, for instance L. Brdlíková (1984) on the basis

of a survey of a number of teacher training colleges mapped the state of their pre-graduate training for work with information and the use of libraries, and for the education of pupils and students in this respect at primary and secondary schools in Czechoslovakia (see also Section 3.4.3).

Such supporting activities are to operatively endorse the implementation of the project of information education within the educational system. In this respect the main initiative is developed by public libraries in the work with child readers (see Section 3.3.2); in the 1970's they mostly even substituted for missing school education in this field.

3.2 Information Literacy as Part of Education

The theory of lifelong education provides that to cope with the growth of information man should be already by school equipped with tools for its communication and use. Participants in the information process must operate in their consciousness an apparatus which is indispensable for the exchange of information. This is to a certain extent a new working and life situation which affects a great number of people because it penetrates most professions and occupations in current society. The need of information user education of new generation is socially all the more urgent the more frequently people become participants in the purposeful exchange of information and the more complicated for them is the acquisition and evaluation of information[4-3,4].

The concept of information literacy acquired in the school has different form in individual countries and individual professional environments. Their extreme representatives are:

- training for mastery of i n f o r m a t i o n t e c h n o l o g y[3,1,10] whose relatively quick implementation was forced by the incursion of the media of this technology into the school for instruction, research, management and for information retrieval purposes (see Section 3.2.1),
- education for acquiring i n f o r m a t i o n c u l t u r e [3-6,4-14] which gradually develops from library and bibliographic training[3-4,33] towards an integrated concept of information oriented education (see Section 3.2.2).

3.2.1 Educational Process and Information Technology

"Mankind has already experienced several technological revolutions all which have profoundly marked the period during which they took place... They have all brought about major cultural and economic upheavals in the societies which they have affected. There is every reason to believe that informatics is bringing about a comparable upheaval, and this time on a worldwide scale ...

The consequences ... are vast. They raise legitimate hopes but they also entail grave risks. They may either serve man or enslave him. On the one hand they make it possible to multiply almost limitlessly small machines of low cost and high performance, and to decentralize informatics networks thereby providing individuals with access to an increasingly broad range of data banks hitherto reserved for a small number of privileged persons...

Thus a technique of an élitist nature will give way to an activity that will benefit people at large... The immense number of users that it will bring into contact and the selection which it may operate in information exchanges could make it redoubtable instrument of power..." (from the speach delivered by A.-M. M'Bow, Director-General of Unesco, 1978) - see 3-19.

As far as the age of information technology is concerned we should consider the question of the preparation of the coming generation for its utilization and the ensuing consequences if this utilization is to be active and creative.

The rapid development of computer technology with an immense storage capacity and operation possibilities affords preconditions for the computerization of the routine operations in information processes. Modern tools for the transfer and display of information, including the reproduction of texts make information widely accessible which in turn has impact on the educational process. This development in some instances leads to the vision of libraries without books and schools without buildings and teachers.

Most experts, however, view such ideas as a technocratic extreme[3-1]. The humanizing influence of the school and of education is impossible without interpersonal communication even though modern technical media will undoubtedly help develop educational capacities (see also the ATEE conceptions[3-37] in Section 3.4.2).

Information technology on its own cannot form man with

with specialized knowledge which has to be confronted with experience, foresight and insight. A mediocre student who finds it difficult to cope with less complicated working instructions will find it very difficult to cope with display units. Thus, for instance, if the student finds it difficult to use indexes of routinely used books he cannot be expected to use the thesaurus of the respective data base or to apply a certain programme[4-2].

The knowledge of the sequence of pushbuttons and of the used information language is but a medium; the educational level and the overall cultural level of man only increases if he deliberately makes a selection of information, if he evaluates the acquired information, transforms it by his intellect and integrates the information in his own knowledge, his creative abilities and skills.

Information technology places greater emphasis on the m e t h o d o l o g y applied in the use of accessible facilities; man must be guided to comprehend and use the available data through these facilities. Those who are responsible for effective guidance, especially teachers in the schools, must have a better knowledge of the existing technology and accessible information files than their students. They should even take part in the development of the files and should first of all inculcate in the students the ability to adapt to the environment which they will face in practice with regard to the development of information technology[3-1].

This is not an easy task and it is not possible to predict to what extent information technology will influence the educational process. In any case technical means will not resolve by themselves the main problems of teachers insofar as they do not become organic part of their methodological equipment. On the other hand one cannot expect that under the influence of computer technology for teaching purposes everything known about learning will cease to apply; it will on the contrary place increased demands on the i n t e r d i s c i p l i n a r y q u a l i f i c a t i o n of teachers, and on their a p p l i c a t i o n s k i l l s.

These problems are also discussed at conferences of the International Federation for Information Processing (IFIP) held under the title "Computers in Education" (Marseille 1975, Lausanne 1981)[4-23]. The concept of "computer education" is restricted to computer technology but its applications exceed information, namely in the field of teaching and learning (CAL, etc.). At this forum contributions were also presented dealing with further social consequences of the use of technical media in the school and the changing role of the teacher (see Section 3.4).

Qualitative difference of the current development of information technology may be observed between the historical milestone of the discovery of print and its impact on the democratization of knowledge. The content of a book was comprehensible to anyone to whom it was accessible and who was literate. I n f o r m a t i o n l i t e r a c y comprises not only the skills required for using information systems through passive perception, but also skills necessary for an active dialogue with the programme of the given system through which man reaches the set of data; this he cannot do without a knowledge of organizational principles and technical feasibility of information systems. Lack of information literacy will be revealed mainly in the course of solving problem-oriented situations and also during any creative activity and decision-making.

These feedback relations must necessarily mark the process of guided information training from the part of the teacher; otherwise a great number of pupils would leave school with only partial information literacy and unprepared for further self-education, in some instances with a negative attitude to information media. Insofar as the pupil copes with the techniques of acquiring information he will need to be equipped with the methodology of information selection and evaluation based on the principle that not all information is relevant and generally progressive, and that information systems accumulate and classify data with a certain tendentious preference for interest of their producers, at best with indifferent recording aims.

Sensitive guidance, interest in the likings and plans of students and the formation of their world opinion are the general equipment vis-à-vis a wide range of possibilities offered by the new age of information. The individual guidance of the students in the organized process of learning places high demands on the specialized knowledge of the teacher with regard to technical media; the said technical media do, however, also facilitate such guidance[3-1].

Information technology may thus facilitate the introduction of modern teaching methods but will itself remain "neutral" to the content of teaching and its method. H o w and w h y it should be used for educational purposes in order not to turn it into "costly page turner" should therefore be carefully considered. Even in the process of the allround introduction of new information media and technology in education it must be taken into account that such means do not separate us from the past, that they are only a higher level of methodology and not another gnoseological quality[4-2].

Information technology will only become a revolutionary change if it initiates a n e w d i d a c t i c a p p r o a c h. Such an approach can be made even without machines; the application of technology without such a didactic approach will have a rather negative impact.

In the broader sense of its meaning the information technology problem area also involves the development and spread of the mass media of communication and their impact on educational systems. In concrete terms the radio and television allow the permanent current linkage of individuals with current events anywhere in the world and also in space. They have one aspect in common with direct communication, namely the intimacy of the human voice, possible of the face and of mimics all of which are absent in depersonalized communication technology. However, the feeling of "being there" is only fictitious because the user is not personally involved , i.e., he does not have to respond to the situation as he would in real life. Thus this new quality does broaden human cognition but it does this to the detriment of the development of a c t i v i t y [4-4].

As concerns the educational function of communication technology, it does alter the social role of the book but it can in no case completely replace the book. Thus, for instance, the role of encyclopedic handbooks or other references books for everyday use, or of publicity means can gradually be taken over by the services based on audiovisual technology. They are also reckoned with for correspondence courses and self-education. Nevertheless, the direct reading of classical books, be they fiction or scientific has irreplaceable advantage, namely that it requires the active involvement of psychic energy, imagination and reflection; the understanding of the text can be deeper and more versatile by reading a book than by listening to the spoken word or looking at a screen or retrieving from data bases (even if verbal).

No technology can replace immediate communication, especially in the educational process. At the time of the information technology the function of d i r e c t c o m m u n i c a t i o n between the student and the teacher is underpinned in the same manner as television and the film have deepened the unique and specific values of the impact of the theatre on the spectators. Not only in the school but also later in practical life the students will seek the core of their communication in their teachers. No matter how capable information technology is to mediate to the students an increasing amount of information on the world the latter are linked with their teachers not only intellectually but also emotionally which is immanent for interpersonal communication and thus irreplaceable.

3.2.2 Information Oriented Education

The recent "information explosion" has been accompanied by what many analogically describe as the education explosion. It has been caused by identical as well as widely different factors in the civilization base of current society. Both social processes, the rapid quantitative growth of the amount and range of information sources and the development of education and training opportunities are interrelated and interactive.

Both information and educational sciences agree that information skills are a new developing field of social practice which must be represented in th educational process. This representation was in information user education expressed in form of goals, i.e., the position which it should have in modern education. Information skills are thus not by-products of the teaching process but should be didactically formulated as the specific property of education.

The objection that many other fields of social activity, e.g., law and economics, are not represented in general education and that information knowledge should not further increase the already excessive demands on modern education may be countered by referring to the universal character of the exchange of information, the educational usability of information of the educational process and the possibility of organically integrating information requirements in curricula in such a manner as to approximate them to life situation in practice[4-21].

It would, however, not be realistic to assume that information user education will relieve pedagogy of all current problems and will lead to the elimination of all difficulties and shortcomings in the quality pf education. Here we are not concerned with oversaturating the educational process with formal information principles to the detriment of factual subject tasks but with <u>information oriented education</u> with clearly defined aspects.

With regard to educational goals we usually distinguish information knowledge and skills[3-30]. I n f o r m a t i o n

k n o w l e d g e comprises teaching the theory and practice of information activity; communication of specialized information; services provided by libraries and information systems; networks of information institutions on branch or territorial principle; primary and secondary information sources; organizing one's own documentation; establishing one's own communications; work with information (computer, communication and reprographic) technology, etc.

I n f o r m a t i o n s k i l l s include: the use of concrete information services; orientation in data bases; knowledge of selection systems; the search in secondary sources; orientation in different types of primary sources; becoming acquainted with the apparatus of a book; information analysis of texts; formulation of information demand in natural language and in the language of the system; author's treatment of its own source for input in the information system etc.

The specialist in any field should furthermore be capable of aware r a t i o n a l a n a l y s i s and comprehension of all working and non-work situations with regard to the need of adequate information. This motivation may then be used as the basis for formulating the aims of information oriented education as the mastering of general formal procedures in information retrieval, in actual work with information sources or aids, media and tools and facilities which may be achieved only by systematic and controlled practical training based on a certain educational programme.

In this connection the problem must also be resolved of the range of information problems in teaching and of the relationship between acquiring information skills on one hand and study aptitudes on the other, also the question of the incorporation of information aspects in the whole programme of school education.

As for didactics there are several variant solutions. Mostly we are not concerned with a separate subject. At the level of information user training a restricted range of educational tasks may be constituted which has a strictly defi-

ned position in the programme of school work either side by side with school subjects as single events or systematic activities, e.g., excursions to libraries, or within school subjects but in a specially defined time or subject unit, e.g., work with information sources in language and literature instruction, information technology in physics, etc. This concept represents the a d d i t i v e projection of new demands on information oriented education into the programme of school instruction.

Another concept for subordinating the new demands to the existing system of subject matter and its integral incorporation into the aims of the educational process is the i n t e g r a t i v e concept which better corresponds both to the character of information science and to its educational tasks. It does not enlarge demands on learning time and may often become a means for the examplary concept of subject matter within curricula.[x)]

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x) Thus the conception was formulated of information oriented education during school learning within the research project "Education of the Users of Specialized Information" carried out in the period 1971-1975 in Czechoslovakia (see Section 3.1.3).

3.2.3 Development of Information Skills and Curricula (Examples of National Measures)

C z e c h o s l o v a k i a

The project of Further Development of the Czechoslovak Educational System which is being implemented since the school year 1976/1977 assumes that the conception of the education of the young generation of pupils of primary and secondary schools and students in higher education will fully meet the demands of the advanced socialist society. This means that school education is no longer expected to provide pupils and students merely with general, known and proven knowledge but also to inculcate the skills allowing pupils and students to creatively handle this knowledge. This is the main principle of the concept of lifelong education of the specialists who will live and work already in 21st century.

These demands are being met among others within the framework of the reconstruction of secondary education by the gradual introduction of information oriented education in the teaching process[3-37]. New educational documents relating to vocational secondary schools, grammar schools and apprentice training centres with four year training courses incorporate in the curriculum of the mother tongue subject units whose aim it is to acquaint the students with the information systems and to prepare them for the aware use of the services of these systems. This information oriented education is differentiated according to the respective type of secondary school.

At vocational secondary schools and in apprentice training centres the curriculum of the Czech language as the mother tongue at all study fields in the first year of the study course includes the unit "Information Fundamentals" with an excursion to a special library; the curriculum in the fourth year of study includes a unit covering the information system of the respective field, search activity, primary and secondary sources and the use of modern data processing and retrieval techniques including practicals[3-38].

At the said schools the specificity of the main field of

study comes to the fore - teachers of the respective subjects in the day to day teaching process handle specialized information and guide students in using the services of information centres. The general information fundamentals (introduction and generalization) are provided at the begining and in the end of the study within lessons of the mother tongue as a completion of the specialized training.

Significant in this respect are the school information centres at vocational secondary schools, set up under Instruction issued by the Ministry of Education of the Czech Socialist Republic in 1981 (and analogically in the Slovak Socialist Republic). One of their tasks is to "create preconditions for the systematic penetration of the latest knowledge of science and technology into the content of the subject matter and to teach students to effectively and promptly acquire and use the necessary information".

At grammar schools (called "gymnasia"), in the subject "Czech Language and Literature" information training penetrates the whole course of study and proceeds from experience with instruction and from the actual content of the subject matter. Students are instructed about the importance of information in connection with the scientific and technological development, and the habit is formed in the students of work with specialized literature, encyclopedias and the daily press, to use libraries and the bibliographic apparatus, to independently process information using the appropriate form, e.g., comprimation, to discern specialized terminology and literary styles, to understand interdisciplinary relations.

In order to help students find an orientation in the flood of information it is necessary to teach them to select new and important information as a precondition for achieving socialwide goals. The document "Main Tasks of Primary and Secondary Education after the XVIth Congress of the Communist Party of Czechoslovakia" (1981) has therefore set to the Czechoslovak educational system the unambiguous requirement of teaching pupils "to use scientific, technological and economic information and to enhance the modernization of

instruction by implementing computer and information technology".

The incorporation of the "Information Fundamentals" in the curriculum at secondary schools of all types and levels in the Czechoslovak Socialist Republic is the first step towards the gradual implementation of systematic information training in the whole educational process. Information literacy is conceived as an important component of the innovation process aimed at training for independent study and for permanent education. It is based on the skill to handle information sources and the habit of independent bibliographic work, including the classification of information for own documentation and its use in creative work.

The main precondition for the gradual introduction of information oriented education in Czechoslovak schools of all levels is to provide appropriate training to teachers who are to take active part in its implementation. The rapid solution of this problem is becoming an urgent social necessity. In this connection the problem will also have to be resolved of effectively influencing the professional attitudes of teachers for whom the transition to the new concept of "informatization of education" is a considerable albeit temporary working load, as well as the problem of the cooperation between all teachers of all subjects in the school and their dialogue with school librarians (see Section 3.3).

U n i t e d K i n g d o m

In 1977 the British Library Review Committee on Education for Information Use decided that in the field of information user education a research project should be launched. This started the project "Educating Library Users in Secondary Schools". In the following years cooperation was successfully developped between librarians and teachers within this project at national level resulting in the document "Information Skills as Part of Secondary School Curricula" compiled by the British Library School Council[3-2].

Another example of the said endeavour was the activity

of the specialized Information Skills in the Curriculum Research Unit of the London Inner City Local Education Authority (LEA). This unit was set up for the period 1979-1982 by the British Library at the local centre for teaching aids and represented a new stage of the conception of information oriented education as no longer merely education for a better use of information or library services but as an integral component of the curricula attempting to overcome various contradictions[3-18].

The survey made in Coventry in 1981[3-3] which involved experimental courses and an inquiry among teachers yielded the following demands on training information skills in schools within the framework of instruction.

a) I d e n t i f y i n g t h e s k i l l s: an indispensable prerequisite of information skills teaching is the determination of their individual components. These skills should comprise the ability to observe, listen and search for information, to deal with people, to implement different reader strategies, to excerpt and implement logical thinking. In view of their essence these factors should not be neglected even at the level of primary school and they should not be relied upon to develop spontaneously in relation to the pupil's achievement in the education process.

b) P u p i l ' s p e r c e p t i o n o f t h e t a s k: such tasks should be given to pupils during information skills training as complies to their comprehension. The method which motivates them for the study of the given problem may arouse the formulation of questions, the searching for relevant data, the seeking of solutions, etc. These are valuable information skills which should be practiced in real or simulated situations.

c) S u p p o r t w i t h i n t h e s c h o o l: a successful teaching programme for the development of information skills requires such a school policy which would be understood and endorsed by all teachers in order that information skills training should have continuity at all levels and in all subjects. It was experimentally verified that many information skills may be mastered from the initial

educational levels and that there is the need for their complex development throughout the primary education. Wider policy could also secure adequate support for the school library where the selection of materials and their organization should become the interest of the whole school.

d) I n v o l v i n g p r i n c i p a l s a n d t h e i r d e p u t i e s : approach to the leading staff differs from the approach to individual teachers where the main task is the concrete application to the problems of teaching the respective subject. The interest of principals and their deputies is focused on the school as a whole, they have been acquainted with the intents of educational policy in general and may have been won over for the introduction of new trends by inspectors or guidance officers. Documents which are being prepared for them to inform them of the intents of information skills training must be brief and explicit insofar as the description of the desirable skills is concerned, resources which are available and favourable educational effects which should be reached in the school.

e) T e a c h e r t r a i n i n g c o l l e g e s : they should mainly be involved in the advance integration of information skills training didactics in their curricula, i.e., they should prepare future teachers for information skills training in the school. The librarians at teacher training colleges should be directly responsible for the content of this training provided within initial teacher education, this including the preparation of student teachers for the role of the school librarian. In-service teacher education should be provided to those teachers who did not attend information study courses during their initial training, namely as concerns their own information skills as well as the information didactic skills necessary for the training of students.

3.3 Library and Bibliographic Components of Information Training

3.3.1 The Role of Bibliography in the Educational Science and Practice

Bibliography as a means of social communication may be conceived as an active method for secondary control of relations between the information source and the information user. It has feedback effect on social developments and therefore efforts are made for its control in the advanced countries. The higher the socio-economic formation the more significant is the controlled system of bibliography as a factor of the social control function of the state and its cultural and scientific and technological suprastructure[4-19].

The general conditions of the level of bibliographic information are given by the historical level of social development. Education is a special circumstance which is given by the level and social accessibility of science, culture and the educational system. The bibliographic memory of humankind does not stand outside time, space and the process of its existence but is an ideological tool by which society acquires reality and which is one of the significant formative means of its transformation.

Processing data on information sources, their ordering and the compilation of bibliographic aids are forms of mediating activities which assume the character of social instruments only when they are used and thus enter social processes. Under the law of the dynamics of bibliographic communication it applies that the higher the contribution of the product of social cognition, the higher the increment of the stock of bibliographic information. The consumption of bibliographic information is greater the greater dynamics of social cognition increment.

The problems of meeting the information needs, of coping with the flow of information have gained social significance. According to the Unesco statistics annual world book production reaches 500 thousand publications (USSR 80 thousand,

USA almost 80 thousand, FRG 45 thousand, Great Britain around 34 thousand, Japan around 33 thousand, etc.). With this increases the volume of bibliographic services and new effective methods are developed for information accessing.

The years 1965-1970 alone saw 21 new series of periodical bibliographies of book production, 11 series of bibliographies of periodicals, 11 series of bibliographies of official prints, 4 bibliographic series for theses, 3 series for cartography, etc.[4-19].

Systems of scientific information are increasingly being interlinked with library and bibliographic institutions and bibliographic data bases are being widely used through modern information technology. These macrosystems built on the territorial (national, regional, etc.) or branch discipline principles are connected to the follow up system of specialized information analysis centres and to mechanisms for the reprographic availability of primary sources.

Bibliography is spreading out to new fields with the broadening division of labour and the ever more complex social organization and differentiation of the information needs of society. From the very beginning of its existence it has been linked with scientific work. We know from history that in the early days of certain scientific disciplines it even took the place of scientific methodology. In most instances bibliographic analysis is the initial stage of the research process whose indispensable component is the critical analysis of existing knowledge and the acquistition of its progressive elements.

The current role of bibliography in science is also assessed from the economic angle in connection with the fact that the information component of its potential is at least of equal importance as the organizational, personnel, material and technical components[4-26].

The bibliometric analysis of science allows to establish it as a specific information system and to depict the trends of its further development. Relations are studied between information sources and their provenance and their obsolescence;

between scientists as authors on the basis of the rate of their citation; between publishing institutions, etc. Bibliographic relations help to reveal the content relations in time and space[4-28].

It is thus evident that no creative activity in the science of education and in school practice can do without the help of bibliography as the background for spreading information of published knowledge, as a means of the socialization of learning and as an aid of self-education. The b i b l i o g r a p h i c l i t e r a c y of educational personnel which prevents them from trying to discover what has already been discovered and allows them to implement progressive experience is therefore extremely important[3-11].

The awareness of the social function of bibliography as the aid and component of the system of education is alive not only among specialized bibliographers but also among leading educationalists who very often feel themselves responsible for the state of the bibliography in their field. As an example let us mention the Soviet educationalist Academician A.I. Piskunov who was the first to write the basic work in this field, namely the bibliography of Soviet literature on the development of education in the years 1918-1957. He also headed the publishing of periodical information surveys and critical abstract journals on education and the educational systems outside of the Soviet Union.

We also find that some educationalists oppose these views and some substitute search preparation on the very boundary of the professional level. In some cases this may arise from the underestimation of specialized bibliographic work owing to the lack of knowledge of this work, in other cases the reservations may be justified and may stem from shortcomings in the provision of adequate information services (low operativeness, lack of promptness, etc.).

The continuous publishing of bibliographies on a wide scale does not mean that they are effectively used. In some instances this is only an inflation of secondary sources which in no way solves the explosion of primary information. The

prerequisite of the effectiveness of bibliography is its a n a l y t i c a l processing and s e l e c t i v e distribution. It is characteristic of the social sciences that the growth of secondary information sources is not reflected in the same growth of the use of these sources.

Another precondition of the effectiveness of bibliography which in most cases remains to be resolved is its incorporation in a system which would be capable of providing the user in the shortest period of time with the f u l l t e x t of the primary source which he has requested on the basis of bibliographic information. Current information awareness of users in the field of education usually requires more than just a bibliographic record; the titles of publications which are not depictive or are figurative must be provided with an annotation. A more detailed abstract is welcome where the acquisition and study of primary sources, e.g., by teachers, faces difficulties of time or space.

The effect of bibliography is mediated; in case of educational bibliography this mediation is multiplied. In some instance this multiplication may result in the underestimation by leading personnel of the final impact of the cycle: educational bibliography - the teacher's creative work - the educational process - asserting of the new generation - impact on social reality[3-11].

Another specific aspect of the relationship between bibliography and pedagogy is related to the fact that every learning process is always linked with the use of literature, namely in the field of lifelong education and self-education. The modern concept of instruction which requires the active participation of the student and the increasing demands which are being placed on the selection and didactical transformation of subject matter which is continuously enriched with new contributions of science and practice and in which certain sections are at an ever more rapid rate losing importance also sets new tasks to bibliography. Education which is oriented to the reproduction of social cognition adjusts its aids to this purpose. However, the idea of "programmed

bibliographies"[4-19] is still distant from the methodology of teaching as concerns both specialized sources and fine literature.

The competence of bibliography in the field of education is increasing with the growing role of qualification factors in the period of scientific and technological development when their effect on economic development exceeds the impact of all other factors. The demands are therefore growing not only on increasing the effectiveness of the educational system and on its rationalization but also on the optimal involvement of information media and information tools in the system of school work. Detailed analysis are being made of the current state and new models are being designed of the bibliographic and information supplying of the teaching process, its "informatization" and the information user training for students.

Demands placed on education which are linked with extensive social, scientific and technological changes are accompanied by a broad democratization of education when entire generations take part in various forms of school and in-service education. It is therefore controversial that relatively small attention has been devoted to this field of bibliography application.

The stock of knowledge which is concentrated in school libraries whose network has been systematically built as part of the educational system is often minimally used. In the cases where adequate attention is not being paid in the system of education to information training of youth the fulfilment of topical tasks in this field is often assumed by librarianship.

3.3.2 Participation of Libraries in Information Training of Youth in Certain Countries

Information training of the young generation is one of the main problems in the centre of the attention of advanced librarianship in the whole world. Separate attempts at teaching basic knowledge and skills needed for the use of libraries and books dates back to the 19th century. In England, for instance, children have traditionally been invited for excursions to libraries on the basis of cooperation between the school and the library. In USSR after the Great October Revolution libraries for children and youth were established on the initiative of N.K. Krupska who was the first library theoretician to deal with the role of libraries in the self--education and education of readers for the regular use of books and libraries[3-5].

The development of children's departments and the establishment of libraries for children and youth as well as their library and bibliographic training from the part of libraries or school developed especially after the second world war. A Section of libraries for children and youth was set up within the International Federation of Library Associations (IFLA) to deal with questions relating to the child reader and the work of children's libraries. At the 35th IFLA Congress in Copenhagen (1969) the method of acquainting children with the library, the exchange of experience with the organization of library work among children and young people and the education of librarians specializing in this field were put on the prospective plan of the activity of this Section.

In recent years the Section for school libraries of IFLA has been cooperating with Unesco in international surveys and in issuing methodological materials, e.g., in 1980 a material related to the development of concepts in the field of information and the skills of school children in information handling.

In 1983 an instruction material was prepared for teachers for the educational use of school libraries within the

framework of curricula, also based on a joint IFLA-Unesco project[3-12].

The Second International INFUSE Conference[3-9] on "Library User Education" held in Oxford in 1981 devoted its attention mainly to the problems of school libraries at all school levels. The individual papers dealt with the questions of conception and policy of information training, experimental and development experiences and methodology of teaching aspects of the cooperation between the librarian and teaching professions. The papers discussed among others: Teaching and learning information skills; Orientation and trends of user education in schools; Incorporation of information skills in curricula; Participation of librarians in user education; Team approach to user education; Evaluation of didactic procedure in the training for library use, etc.

Library and bibliographic training takes on different forms in different countries which depends on the stage of development of the library system and of the educational system. On the example of several socialist countries[3-5] we shall now try to illustrate experience which have been gained so far.

U S S R

In 1934 N. K. Krupska published in the journal "Krasnyj bibliotekar'", the methodological guidelines for library lessons at the first level of primary schools. Within recurrent instruction the pupils were acquainted with a concrete school or public library, its catalogues, reading room, they learned to use the encyclopedia, newspapers, journals. They were methodologically guided to seek answers from people or in the literature, to write excerpts from what they had read, etc. At the second level the lessons had a deeper character and were oriented to self-education and to the critical evaluation of the material which they had read. The instruction was implemented by teachers of the mother tongue or school librarians and a continuous exchange of experience between them was introduced.

After 1945 there took place a gradual professionalization of big libraries in USSR together with the training of pupils of all school levels. The decision taken by the Central Committee of the Communist Party of the USSR and the Council of Ministers of the USSR on the further improvement of the work of the secondary general education school (1966) underlines the necessity of "orienting the attention of libraries to work with bibliographic aids which help orientation in information sources".

Since 1970 many Soviet schools have introduced the facultative directives for the foundation of the c u l t u r e o f r e a d i n g . The main mission of this programme is to teach children and youth to independently work with books, the skill of aware selection of literature and to use the services of school and public libraries. In the education of the reader an important role is fulfilled by acquiring the habits of library and bibliographic literacy not only in the library but also during instruction.

Under the Directive of 1971 school libraries employ qualified librarians who are also members of Pedagogical Councils and are responsible for information training of pupils in the school under a uniform plan for secondary general educational schools. The Decision of the Central Committee of the Communist Party of the Soviet Union on strengthening the role of libraries in the communist education of the working people and in scientific and technological progress marks another stage of development in this field.

G D R

Work with the book was incorporated in GDR educational system in 1965. Under the law on the unified socialist system of education the teacher is to lead his pupils to use libraries, to encourage children to acquire books for their own libraries, to present the book and the journal as sources of information, etc. The requirements of the curricula are integrally endorsed by text-books which methodologically and formally meet the requirements both of pedagogy and informa-

tion training. This, for instance, the text-books for the fifth class are provided with indexes in 50 %, those for the tenth class in about 90 %.

Public libraries are oriented especially to pupils of the following grades: In the s e c o n d class when the pupils learn independent reading they are introduced to children's department of the local public library and become acquainted with the use of the library. In the f i f t h class when the pupils are introduced to differentiated teaching of individual subjects and begin to learn their first foreign language, library use training includes the introduction to library collections structure, the use of catalogues and bibliographies. Pupils of the e i g h t h class visit the lending library for adults where they become acquainted with the diversity and purpose of library services. Schools and libraries have contracts on cooperation on whose basis teachers of the mother tongue proceed in agreement with the librarian.

Library use training is to provide the primary school pupils with the following k n o w l e d g e :

- librarianship, the tasks and types of libraries, cooperation between libraries, relations to other types of cultural and educational facilities;
- the specificities of the concrete library which they use the duties and rights of readers, book borrowing techniques, events organized by the library, inter-library loaning service;
- arrangement of library collections, catalogues, data on catalogue cards.

This knowledge is further deepened and supplemented within the lending and consultation service provided by the library.

In 1972 the Central Institute for Librarianship published the methodological handbook "Providing Systematic Information on Libraries to Children and Youth". The publication sums up guidelines and materials as well as the experience gained by some libraries. Teachers closely cooperate with the librarians of public libraries for children because an operational network of school libraries has not yet been appropriately built up.

H u n g a r y

In 1971 the Ministry of Culture of the Hungarian People's Republic elaborated the "Principles of the Development of the Activity of Libraries for Children and Youth". According to the said principles the cooperation between libraries and schools is to lead to the inculcation of the habit of regular reading and the use of the services of all information institutions. In view of the situation of school libraries teachers cooperate with public libraries in information training of pupils and students.

Library and bibliographic training is complex and centrally administered. Handbooks are published for young readers on library services and library guides are put out for different age group. The methodological material "Presenting the Library" and the publication "Lessons in the Library" have been issued for t e a c h e r s and l i b r a r i a n s. The curricula prescribe a visit to the library for third graders. Library lessons are prepared by the teachers in such a manner that some lessons of different subjects are organized in the library and with the help of the librarian the pupils are able to become acquainted with literature relating to a concrete theme of instruction; they are also taught to use the books and journals themselves.

In Hungary information training has a relatively short tradition but the complex approach to its satisfactory implementation, including the training of teacher students for work with non-text-book texts in instruction, allows to overcome existing shortcomings; library and bibliographic training in the school is becoming a matter of course.

C z e c h o s l o v a k i a

In the mid-1970's when within the framework of a national project in the educational system information training was enforced only slowly p u b l i c l i b r a r i e s assumed this initiative. Some big public libraries - in cooperation with schools - prepared courses of library and bibliographic training for pupils and even published methodolo-

gical materials, e.g., in the South Bohemian [3-15] and North Moravian[3-34] regions. However, these courses were organized outside of the curricula and knowledge acquired in them and skills acquired during excursions to libraries had no follow--up in practical training in the classroom. The initiative of some school librarians thus found response more in the field of librarianship than within the school system.

On a state-wide scale activity in the library and bibliographic education of youth in libraries is coordinated by the State Library of the Czech Socialist Republic[3-33] and is conceptually and experimentally developed in the activity of its Permanent Commission for work with the child reader. (Analogically the Matica Slovenská operates in the Slovak Socialist Republic[3-14,29].)

A model has been designed of this training as part of the communist education, this using forms of out-of-school education for r e a d e r c u l t u r e within the system of "Youth and Culture". The model has been developed in the progress plan of the library and bibliography education of youth[3-34] in the school curricula according to subject fields and age groups.

In the first stage it involved also tasks which were to have pertained to the school but which in the 1970's had not yet been integrated in the teaching process. At the turn of the 1980's a change took place in the attitudes of responsible bodies in the field of education; contributory were legislative measures following up on the Project of the Further Development of the Czechoslovak Educational System and approved in 1978. They among others enforced the necessity of teaching basic elements of the technique of intellectual work in the process of instruction, including the use of bibliography and the whole apparatus of the school library. With this is also linked the necessity of continuous information training of teachers, educators, school administrators and research workers in the field of education.

Programmes were differentiated as follows:
- information training of pupils and students in the school,

- library and bibliographic training of readers in the unified system of libraries,

with mutual coordination in the following directions:

Educational administrators and methodologists see to it that the foundations of information training laid down in library lessons should be systematically developed and trained in school teaching. School libraries cooperate with public libraries and with units for work with books at Regional Pedagogical Institutes and District Pedagogical Centres and they in turn provide them with specialist and methodology assistance.

3.3.3 The School Librarian and the Teacher

"When ... I survey all your work and its organization it appears to me that I have identified ... the main causes of its relatively limited success... You do have some good scientific text-books but they are so tightly confined to the school library that very few have access to them and none will know about them, least of all use them... Teachers do not have the methods which would free them and their pupils of difficulties if they transferred the major part of the work load to these silent teachers and enriched themselves from these rich treasure houses of learning... With the help of books many become learned even outside the school, without books no-one can become learned even inside the school. Thus if we love the school we also love books, the souls of schools, because unless the schools are animated by books, then they are dead.

...As well as being respected books should be read, in order that the treasures of wisdom buried in them should be dug up, in order that they should see the light of day and that they should be used... As it is not possible to read all books (especially then their numbers swell like the Flood) it is necessary to read at least most of them.

... It is not enough just to read books; they must be read attentively and the most important places must be underlined and extracted... It would be impossible to remember what you have noted and where if you did not add an index to the great wealth of your notes ... furnish yourself with a folder in which you will inscribe in a very clear and permanent manner, one known to you, the entries for all items ... if you add a sufficient number of cards you will be able to enter anything ... If you collect this great wealth of extracts you will achieve the unbelievable. You will be able to cover as many as 600 writers a day and to cope with them reliably ...".

(Excerpts from a speech delivered by J.A. Comenius in 1650 on the occasion of the opening of the school year on "How to Skillfully Use Books, the Main Instrument of Education" - see 3-16.

The decisive share of information training should be taken by the school library which is the sole facility of this type, compulsory for every citizen of an advanced state under the law on compulsory school attendance. This applies on condition that all children will use the services of the school library, that teachers of individual subjects will require from pupils routine information skills and that the school librarian will be involved in the integrated system of information training in the school within the framework of the curricula.

The said important problems were dealt with by specialists supported by U n e s c o . They came to the conclusion that the effective use of books and libraries is not a skill which develops spontaneously but one which must be inculcated[3-33].

The Unesco initiative resulted in the introduction of "library lessons" in a number of schools in the Member States. In these lessons the children were given at least once a week additive training in library and bibliographic skills. The intention was beyond doubt very good but it had two shortcomings:

a) the tendency to derive everything in which the children were trained from the general profile of the librarian profession;
b) the idea that an instruction on the library is all there is to this work.

In fact such instruction should only be the start of integrated training in information retrieval, use and implementation. In concrete work in the school this means that the training in the use of libraries should follow up on training in the use of books.

Another finding was that training in the use of the school library should in no case be based on the practice of such a library which is headed by an amateur librarian. In order that the pupil should acquire correct information use habits and skills he should receive his training in the environment of a well organised library where he should become acquainted various types of sources[3-34], the foundations of

locating books in catalogue, with classification patterns, the use of bibliographic aids, the possibility of using the services provided by other libraries and information systems.

The formation of these information skills should be firmly linked with the curricula and should follow up on the training of study skills, e.g., in the use of reference literature.

In order that these requirements should be fulfilled the Unesco handbook puts emphasis on the division of responsibility between the school librarian and the teacher. This division of labour should be based on the full qualifications of both professions. The two specialists should first of all speak the same language. In practice it sometimes happens that the school librarian in the effort to make information training become integrated in the curricula encounters the same difficulties as does the teacher in his attempts to improve the function of the school library[3-27].

It thus follows that librarians would be more successful in the education policy decision-making process if they spoke the language of pedagogy than their own librarianship terminology. They should also bear in mind that successful training in information skills is linked not only with the use of the library but also with everyday work in the classroom. This is where the innovation role of the teacher comes into its own - in most cases the teacher is inadequately trained and does not have enough experience for the fulfilment of these tasks.

A compromise solution in most Unesco Member States is the semi-professional training of school librarians from the ranks of teachers, mostly teachers of the mother tongue, who work as part-time school librarian in smaller schools. The advantage of this solution is that the school librarian is a member of the teaching staff and that his person integrates the demand placed on educational work in general and on information training in particular. This mainly concerns curriculum planning where the library can fulfil tasks in the sup-

plementary teaching of new knowledge and new approaches, especially in form of methodology assistance and guidance both with regard to pupils and to teachers.

With this is also linked the important task of the school librarian, namely to coordinate the training of information skills in pupils within the framework of the school. From this ensue three qualification requirements placed on the school librarian[3-2]:

a) P e d a g o g i c a l qualification follows from the understanding of the role of the library in the teaching process. The librarian should not only be able to involve the library in school work but also should be able to convince his colleagues of this necessity. His educational work in the field of information skills should be closely linked with the curricula in whose implementation he should play an active role.

b) B i b l i o g r a p h i c qualification consists in that the school librarian should be personally acquainted with all material (not only books and printed material) which could be used for the endorsement of subject teaching but also methodologically for information training. He should also have a knowledge of information media and sources and should come out to meet the needs of teachers as users of specialized information in their respective specializations. His library should become the centre of school work using information sources of all types.

c) T e c h n i c a l qualification of the school librarian relates to routine librarian operations, such as acquisition, cataloguing, inter-library loaning service, etc. Part of this work is also handling audiovisual materials which require special equipments for their use. This of late increasingly represents a set of skills exceeding both librarian and teacher education. The librarian must also become acquainted with the principles of furnishing and equipping libraries, possibly to operate as an adviser for teachers and pupils in the use of modern library technology.

In order to enable an effective dialogue between the school librarian and the teaching staff of the school it will be necessary for the teachers to become generally acquainted with the mentioned parts of the librarian´s qualifications to understand the possibility of teamwork involving both professions in the school. From this follows the requirement that elements of training in the use of the school library in the educational process and information training in the

use of information sources in the teacher's own creative work and in his methodological work with the pupils be integrated in the teacher's pre-service training. On this basis the teachers may in their practical work in the school effectively use the school library and cooperate with school librarians[3-24].

The fact remains, however, that both the professionalization of the school librarian and the participation of the school library in the practical implementation of information training in a number of countries does not stand up to the ascertained needs and international recommendations.

In British schools, for instance, the initiative for acquiring information skills is often developed by a group of 2-4 people in the school of which one is usually the librarian, the others are teachers. The other teachers gradually learn from their colleagues that the programme of user education would facilitate their teaching work and would be generally beneficial for the teachers and the pupils of the whole school (see 3-3).

The theoretical generalization could then come later but integration at school level should be done consistently and the principles of information training and the function of the school library should be projected into educational intents not only by proclamations but also concretely. In some instances it is necessary that librarians should acquire pedagogical knowledge as the counterpart of the training of information skills in teachers.

3.4 Information Qualifications of Teachers

3.4.1 General Considerations

The notion of information literacy has different content in different countries and in various environment. It may mean the effective use of the services of concrete information systems or the application of information technology in certain information and other processes. In general we are concerned with a concept of information knowledge and skills systematically acquired by information education and training and manifested complexly in work with information of prevalently cognitive character, this in all stages of the information process within the framework of social communication.

This concept cannot merely do with the term "user" because the participation of any specialist in the information process is not only limited to the u s e of information but is also related to c o o p e r a t i o n with information specialists and to communication skills in the production of information sources within the framework of creative work. Information literacy thus becomes an indispensable component of any specialist qualifications and with regard to the democratization of education becomes a mass affair[4-28].

As concerns the teachers their information qualifications comprise the above components plus another specific component which follows from their active mission in inculcating information literacy in pupils and students. This is the methodology of teaching information skills in the course of the educational process in the school, namely information didactics; in this respect the general information qualifications of the teacher for the use and production of information will play an important role because the teacher's personality in this respect will inevitably influence the effectiveness of the implemented methodology[3-26].

Repeated research is ineffective owing to the lack of previous information searching and it would likewise be ineffective if every teacher would on his own seek ways of coping with the didactical problems of information training (and in

many instances also of his own self-education). Since we do have curricula for courses and text-books for those who are involved in information training, on national and international levels, in general or in schools of different types (cf. 3-7,8,12,25,30,31,32,37,38), it is the task of the teacher to apply the model methodology to concrete instruction (see below and also Supplement 4.2).

Teachers are the decisive factor for the introduction of information training in the educational process, no matter whether they themselves are the bearers of this training, namely at lower level schools, or whether they function as methodologists and organizers in cooperation with librarians and information institutions, especially in the concrete forms of training at schools of higher level. Their adequate information qualifications must therefore be resolved well ahead of time.

Teachers should acquaint their students with the methods of organizing knowledge, the methods and techniques of information retrieval, the importance of the information analysis of texts, the methodology of the use of services of various information systems which have developed in the social division of labour and finally they must teach their students to formulate their information needs.

Teacher training for information user education at primary and secondary levels is usually differentiated: teachers of the m o t h e r t o n g u e teach the general fundamentals of the work with information sources (in some cases they may receive semi-professional training for the function of school librarian) and teachers of the other subjects - in lessons of some g e n e r a l e d u c a t i o n s u b j e c t s the teacher will explain certain other aspects of the communication process, e.g., the generating and disseminating of information, and in v o c a t i o n a l s u b j e c t s the teacher will demonstrate concrete applications in the use of information services in the given field.

In different countries the information training of

teachers is implemented at various levels: on the initiative of libraries, during training for the part-time associated function of the school librarian (mostly for teachers of the mother tongue), in connection with the introduction of information technology in schools[3-10], within activities of centres of educational information, by the methodological work of educational authorities, subject associations or teachers' centres, etc., during in-service teacher education[3-25] and finally, and this less often, during pre-graduate study at teacher training colleges.

In most cases this implementation was enforced by the pressure of social practice or was introduced on the initiative of individuals, and does not have complex or integrative character. Nevertheless it may be said that the stage of inundating the teachers' qualifications with new demands, based on the principle of relative self-sufficiency, critically described as "the teacher a librarian onto himself, or the teacher a programmer onto himself", etc., has already been overcome. Development is advancing towards a d i - v i s i o n o f l a b o u r among educationalists working in a range of more differentiated educational functions, and between them and other specialists serving both in education and outside; the ability is emphasised of m u t u a l c o m u n i c a t i o n in the team-based problem solving.

According to Academician Babanski (Academy of Pedagogical Science of the USSR)[4-14] pedagogy within the framework of interdisciplinary relations is setting tasks to be fulfilled by information specialists; next to this passive role these specialists should discover "white spots" in pedagogy, such as the overlapping of terminology, the uneven coverage of problems by educational research, etc. For this interdisciplinary dialogue the methodology of information training should be developed and introduced primarily into i n - - s e r v i c e t e a c h e r e d u c a t i o n , into seminars for the academic staff at teacher training institutions, etc. He emphasised the indispensability of "raising information culture" of educators, this not only as users

but also in their creative and pedagogical function, i.e., in relation to the education process.

In this manner is developed the g l o b a l a p p r o a c h to the problems of the role of the teacher in the changing world and to demands on teacher training in compliance with the social and educational needs of the future. In the late 1980's and in 1990's considerable changes may be expected to take place in society and in education[4-1] as a result of the rapid development and spread of information technology; these changes will be manifested in information methodology in the broadest sense of the word which will in turn be projected into certain aspects of instruction and may be to the teachers' benefit insofar as they are prepared for this new dimension. These changes include, for instance:

- a great variety of information sources (the school and the teacher as a source of information is less important);
- mass storage in total information systems;
- new communication tools with the possibility of many-to-many communication in which millions of people are able to communicate simultaneously;
- instant information about anything adapted to the developmental level and other characteristics and interests of the student;
- interactive use of information and the substantial increase in the knowledge required from educated people.

From this follows <u>consequences for teacher education</u>[3-40]:

a) The teacher will be less of a lecturer and more of a consultant.

b) He will in future use his experience, knowledge and competencies more in teaching situations outside the formal school than currently.

c) Greater mobility between occupations is expected, lifelong education is therefore a necessity and teachers will have to be trained for their role in providing lifelong education.

d) The teacher himself will be trained his whole life long because of the rapid changes in society, knowledge, teaching methods, communication and the needs of youth.

The teacher will have to be prepared for teaching in the school whose role will undergo changes - he will help students in the selection of relevant information and in its critical and correct use - students will be able to acquire such information from other, bigger, interactive and operative sources; the educational environment will no longer be restricted to the form of schooling and will become a more or less open system.

Teachers will use the advantages of the application of new technology in the school, they will have a more flexible approach to teaching, the ability to face changes, an involved attitude to the future. In teacher education greater attention will be devoted to communication skills and information literacy. The teacher should be prepared for a school in which greater emphasis will be placed on creative teaching and the use of information.

Teacher training, in order to be relevant for future social needs, should be actively endorsed from the part of society which has greater responsibility than the teacher for the excessive production of information. The education of teachers should become a significant factor in modelling a favourable future for all.

3.4.2 International Recommendations - Chronological Survey

The basic handbook published by Unesco for the education and training of users of scientific and technological information[3-8] has the form of a guide for teachers in UNISIST courses (Paris 1977). It attempts to discern the differences between users with regard to branch specificities. The handbook gives certain general premises for the training of educationalists in relation to the training of future information users. It is, however, considered to be very difficult to define specific recommendations for information education and training in the broad scale of education facilities on national level.

It is recommended to improve information skills of teachers both in connection with their specialized information needs during their study period and with their practical information requirements at the schools where they work, this through the system of educational information, namely through the library network. It is necessary mainly to provide teachers with a methodology to help them orient in sources with regard to their qualification growth and the needs of teaching practice. The guide states that "during their pre-service education teachers should be trained in information skills within the framework of their specialization. This should be followed up by the formation of concrete search methods and the effectiveness of such education should be investigated".

Recommendation no. 71 of the 36th session of the International Conference on Education (Geneva 1977)[4-17] devoted significant attention to the problems of information training. Connected with it are also recommendations relating to teachers:

"More generally there is a need for greater attention to education and training of various categories of people involved in education on how to produce and use information at every stage of the educational process. To achieve this, the following measures should be considered:

a) Curricula at all levels of instruction, including teachers' colleges should include short courses on information resources and documentation utilization;

b) pre-service and in-service training of educational administrators and in-service programmes and courses of professional improvement of teachers should provide for their initiation to the utilization of educational information;

c) school inspectors and teaching staff of teachers' colleges should play an important role in promoting the exchange of information between teachers and educational institutions and research centres and at the same time in providing further training in the use of educational information;

d) teachers' organizations and other professional associations can also play a role in this respect by organizing meetings, seminars and workshops and by stimulating the exchange of information through their publications."

Elsewhere the Recommendation states:

"Teachers should be made fully aware of the various systematic professional products and bibliographical tools, such as abstracts, indexes, current awareness lists, etc., that librarians, archivists, documentalists and information specialists generate, and that are of value and use to the specialized educational community".

The International Colloquy on "Teacher and the Science of Education"[4-27] (Prague 1979) held by EIC-FET with Unesco participation described certain specificities of the teacher in relation to information. One of these specificities is that educators, next to their user role in the information process also have the irreplaceable function of the mediators of fundamental methodology of independent study to future generations. A recommendation was therefore presented to attention of the respective international and national institutions that with regard to the social need of lifelong education the information training of teachers be given priority attention and well in advance.

The International INFUSE Conference (Oxford 1981)[3-9] also stated that most attempts in the given area are aimed at teachers as users of specialized information with the objective of improving the teachers' information skills. As concerns the information training of pupils and students in the schools, this level and orientation of the user profile of the teacher presents undoubtedly a motivating element. However, in their dialogue with school libraries and services provided by educational information systems the need has

appeared of a new quality, namely as concerns the role of the teacher in the introduction of integrative information training in the school curriculum.

The PGI Committee for Education and Training discussed the development of the user education programme within the framework of the Unesco medium-term plan for the years 1984-1989. It was stated that user education remains one of the most important problems for solution and that the key role in this process is fulfilled by educational institutions from primary school to university levels. In this connection the important long-term task is the information training of all teachers and educational administrators.

The 22nd Unesco General Conference in 1983 adopted the following measures for the endorsement of information training in the Member States:

- To prepare materials for systematic education for the use of information sources at primary, secondary and higher education levels;
- To develop learning materials for teacher training institutions with the intention that teachers should inculcate in their future students the habits of information seeking and use, as the means for problem solving.
- To experimentally develop a model learning package which will be made available to information specialists in the developing countries with the aim of motivating their users and to better acquaint them with the concept, control and evaluation of data bases and specialized information systems.

Within the framework of the P G I and U N I S I S T projects two courses have been developed for the South Pacific region which were published by Unesco in 1984 [3-32];

a) a course on the use of information resources by teachers
b) a course for trainers of teachers who have chosen school librarianship as their main field.

The structure of the first course has been appended as Supplement 4.2.1. The study course is designed for pre-service and in-service education of all primary and secondary school teachers with didactic application to the information training of pupils and students. The course is to be based on a well advanced school library in 50 hours, this either in one

school year (2 hours weekly) or as a seminar (4 hours a week) in one semester or as an in-service study course for teachers (three weeks).

The Association for Teacher Education in Europe (ATEE) working group for New Information Technology and Teacher Education in 1984 studied the social consequences of the educational use of information technology and its impact on teacher education[3-39]. The concept of "information technology" was b r o a d l y c o n c e i v e d as "the methodology and technical means for acquiring, storing, processing, retrieving and transferring data as well as information originating therefrom, and thereby increasing man's knowledge and broadening his capacity to control technical and social processes". For this reason the consequences are also stated of the application of information technology to the information qualifications of teachers.

The areas of the application of information technology in the educational process were defined as follows:

a) a means of e d u c a t i o n a l m a n a g e m e n t, this not only from the point of view of plan and budget but also from the point of view of the organization of schools, the diagnosis of the pupil, the development of the educational process, etc.,

b) a means of t e a c h i n g a n d l e a r n i n g,

c) a teaching a i d which does not provide educational modalities, e.g., simulation methods, statistical analysis, text processing, information retrieval from data bases, etc.,

d) a teaching s u b j e c t, this not only for the study of information technology but also for further didactical use, i.e., for user education.

From this ensued further problem areas which should penetrate into the content of the education of a l l t e a c h e r s:

- information technology and society,
- practical work with application programmes,
- introduction into problem solving by algorhithm means,
- introduction into the architecture of information systems,
- methods of information technology teaching.

0196

The European colloquy EDICO-4 (Bratislava 1984) drafted a long-term programme of international cooperation and the exchange of information which incorporates the problem of the information training of educational personnel and students as it is illustrated by the following excerpts from the Final Report[4-8]; Recommendations, Part A, 12:

"/e/ to promote efficiently information training of personnel at all stages of the management of school systems and the science of education so that they make better use of the existing information and participate in the systematic creation of information sources;

/f/ in accordance with change in the profile of the school-leavers and graduates towards a broader general and theoretical preparation and taking into account the lifelong education, the efforts in teaching the student at secondary schools and at university-level establishements should focus on the work with information;

/g/ to exchange consistently projects, curricula and syllabi dealing with information training of teachers, school and educational research workers, pupils and students and to consider in cooperation with Unesco the possibility of creating expert teams that upon the basis of experience of national information centres and other resources would elaborate a model of project of organizational and methodic solution of information training of the users and creators of the work with information;"

The participants in the Colloquy after surveying the proposals submitted and ensuing from the long-term programme of cooperation among national information centres suggested that the programme of the EDICO-5 session /to take place in 1987/ should encompass the following theme as one of three topics:

..."2. the training of staff in the field of information and education of users (managers, researchers, teachers, pupils and students) to work with information;"

The participants appreciated the great contribution made by Unesco and IBE to exchange of information, to building national information centres and international information systems, the importance of their coordination and methodological activities in this area, their contribution to the development of international understanding and peaceful cooperation between the nations of Europe; proceedings from the Unesco programme they presented the following r e c o m m e n d a t i o n s t o U n e s c o , Part B, 14:

..."/c/ to consider the possibility of setting-up expert teams that would examine the following issues:

... - to keep under review and evaluate systems for the training of school staff in general and of educational research workers, pupils and students in the use of information and to set up a pilot project in this field;"...

The International Federation of Library Associations (IFLA) in cooperation with Unesco in 1983 presented for amending Instructions for Teacher Training for the Educational Use of School Libraries within the Curricula[3-12]. The definitive version is to be published for the broad specialist public in 1985.

3.4.3 Examples of National Programmes of Teacher Training

U n i t e d K i n g d o m

Experimental experience with teacher training for user education at primary schools was obtained from a survey conducted by the Department of Librarianship and Information of Loughborough University in 1981 with a group of selected teachers from schools in Coventry[3-9]. The programme was experimentally launched of in-service education of teachers of mother tongue who were to be the bearers of information training of pupils; part of their newly acquired skills was to be the ability to discern who of their pupils and when had acquired the required knowledge.

The course was attended by two teachers from each of the primary schools in Coventry. The course programme also included demonstrations of certain aids of reference character by means of teletexts and publishers' bibliographies (British Books in Print) on microfiche in order that the course attendees could evaluate their ability to use them. On the programme of the course was also a discussion on methods of personal documentation. This part of the programme also served the information training of the teachers themselves.

During the course shortcomings appeared in the knowledge of classification and indexing of information sources, i.e.,

in the skill to retrieve information on the basis of various systems of information ordering. At the beginning of the course the attendees filled in a questionnaire which was then used for the evaluation of the course, for the attendees to give their views on forming information skills and on the level of instruction for the purpose of the use of school libraries.

After the end of the course teachers who were interested in continuing to work in user education together with advisers for this work set up a g r o u p o f a c t i v i s t s, which then carried out a survey with experimental groups of pupils. None of the schools had previously had a library catalogue based on the subject principle. The children were asked to help with indexing - they liked this work and tried to compile headings and references by themselves.

The teachers stated that it was difficult to teach something which they did not know properly and had not received adequate training for. They felt they were not acquainted especially with the use of reference books and materials, some complained that their school library was inadequately organized and that their work was thus ineffective. All of them agreed that these problems should have been resolved at the level of their pre-service or in-service education, this not only as concerns their own user, or semi-professional librarian skills but also as concerns <u>their pedagogical knowledge which were required for the information training of their pupils</u>. The conclusions of the experiment served the evaluation of the courses programme and the generalization for the purpose of information training for teachers in broader territory[3-2].

However, at the turn of the 1980's in-service teacher education in UK was strongly curtailed owing to the unemployment of teachers. This brought about certain scepsis as concerns new trends. Some hope was aroused by the UK Microelectronics Education Programme (MEP) within the introduction of micro-computers in all schools. It required the concetration of funds for the training of teachers for the use of information

technology in teaching process. And such topics as "Use of the Computer Technology as a Means of Information Retrieval from Data Bases" have been incorporated in the curriculum for teachers.

P o l a n d

The directive relating to the training of students in the use of scientific and technological information of 1970's set the following tasks[4-33] for the Polish education[4-33]:

a) The problem area of scientific and technological information is primarily integrated in the subject "mother tongue" being a subject implementing the principles of self-education using various forms and methods of the work with the book.

b) The tasks of the teachers of other subjects, especially vocational, consist in teaching the pupils to use popular and specialized literature, in training their skills in selecting and classifying materials and inculcating the needs for the use of information even after they leave school.

c) All secondary school teachers are obligated to acquaint their pupils on a planned and systematic basis with the fundamental concepts and terminology from the information field, with various information sources, both visual and auditory, and with the goals of information services and the organization principles of the network of scientific and technological information. The teachers are also obligated to teach their pupils to practically draw on generally available resources of science and culture and to retrieve information sources. For this they must receive adequate training.

d) The main centre and basis for information training is the school library; in case the school does not operate such a library it should cooperate with a public library or information centre.

The solution of the needs of information training and in-service teacher education is met by one institutional base, namely the Institute of In-service Teacher Education (IKN) in Warsaw. This Institute is the national research and coordination centre of the territorial system of in-service teacher education and its Scientific Information Unit methodologically controls the network of educational and school libraries and information centres of the network of in-service teacher education facilities[2-16].

200

Within the national system of scientific information IKN also provides information services on teacher problems in the wider context, i.e., in the field of pedeutology. Within the Institute itself the mentioned unit provides information for the research and educational activities of IKN in the field of in-service teacher education. The information specialists function as lecturers and authors of aids for user education and training of teachers which forms an organic part of curricula and syllabi of study courses.

Information training of pupils is organized by school libraries in cooperation with the teaching staff. Teachers are trained for these tasks within the combined specialization teacher-librarian.

In 1983 the IKN issued educational documents (see Supplement 4.2.2) which define the level and profile of this training within the framework of in-service teacher education:

- Programme of pedagogical study in the field of librarianship (higher education qualification in the specialization "School libraries")
- Programme of pedagogical study for teachers in primary schools and other educational institutions related to the methodology of work of the school library (complementary secondary specialized qualification).

Part of the curriculum is information training of pupils in the subject area "The Library as the Workshop of Self-education and Didactic Work".

C z e c h o s l o v a k i a

Information training of student teachers in pre-service education has so far not yet been generally introduced, and insofar as it has been introduced it is not being implemented under any unified or systematic programme. Mostly it consists of instructions given to students in the final stage of their study course or in a lecture given on the personal initiative of a teacher or librarian[3-30,33;4-6,7]. The only exception to the rule in the Pedagogical Faculty (College of Education) in Ústí nad Labem where over a period of several years a three year study course was experimentally tried for student teachers who were trained for work with information

within the framework of socio-political practice. These experiences from the North Bohemian region may be generalized for nation-wide use in the system of teacher education[4-32].

In 1984 the Ministry of Education of the Czech Socialist Republic issued the Interpretation of Instruction on School Libraries (of 1979) which among other defines the demands placed on the education of the teachers-heads of school libraries as follows:

1) For beginning librarians short-term courses of library techniques should be organized.
2) The basic form of the education of the heads of school libraries are specialization study courses approved by the Ministry of Education of the Czech Socialist Republic... One-year, possibly two-year study courses (a range of 40-50 hours) are organized according to the needs of schools and interest shown by educators by Regional Pedagogical Institutes and on their authorization by District Pedagogical Centres.
3) Other forms of librarian education are joint visits, seminars, meetings, excursions, methodology meetings, study of the specialized literature, joint schooling of personnel of school and public libraries, etc.

A separate section of the Interpretation is devoted to the problem area: "Use of the School Library in Instruction. Education of Teachers for Training Pupils for Work with Information" - see Supplement 4.2.3.

In the field of information didactics the initiative came from the Central Institute of In-service Training for Educational Personnel in Prague. In 1982 the Institute designed the general project of a s p e c i a l i z a t i o n s t u d y c o u r s e "Information. Work with the Book." The study course is to become the basis for the education of teachers to be able to introduce information training into secondary schools. In the first stage the study course will be attended by teachers of mother tongue, history, civics and by teachers-librarians in grammar schools, vocational secondary schools and apprentice training centres. As of 1984, after experiences gained with the study course have been generalized, this form of in-service teacher education should be extended to cover other subject groups.

In 1984 the Institute published a t e x t - b o o k

for this specialization study course entitled "Information training "[3-30] which is to serve as the minimum knowledge in this field for teachers who in secondary schools will assume responsibility for information training of students in different subjects or for their information exercise in the school library.

In the same year (1984) the author of this text[3-31] published a follow-up m e t h o d o l o g y h a n d b o o k for teachers "Work with Information at Primary and Secondary Schools"[3-31]. This is the first attempt to integrate information methodology in instruction on the basis of the content analysis of text-books for primary schools and curricula for grammar schools, vocational secondary schools and apprentice training centres which have been published within the reconstruction of the educational system in the Czechoslovak Socialist Republic.

Part one contains references to information elements of the subject matter in the respective sections of text-books for the respective years of study and individual subjects. These elements are methodologically specified with the aim of training students and acqainting them with other interrelations. The teacher need not explicitly speak of specialized problems or use information terminology in his presentation.

Examples:

2nd class, Render, p. 210
"Copy the title of the book and the name of the author"
specify without using the term bibliography

5th class, Science, subject index
seek all data on vitamins in the text-book

The following part is devoted to secondary schools where new text-books were not yet available (with the exception of the subject Czech language and literature). On the basis of the curriculum analysis the general objectives are given of information training in general education subjects and methodological instructions are specified for work with information in specialized subjects.

Examples:

Foreign languages - learn to use the dictionary and clarify the meaning of foreign language texts, e.g., less than 1% of scientific and technological information is produced in the Czech language, 20% is produced in Russian, etc.).

Specialized subjects - students are acquainted with their basic information sources and with the services provided by branch information systems.

The final part contains a set of basic knowledge required for work with information in 15 thematic areas. It is followed up by a table which indicates the linkage between these areas and text-books and curricula for different subjects in the respective years of study with references to the respective sections in preceding chapters of the handbook.

Examples:

Card file: from the thematic area "Organization of Personnel Documentation"
- Work education - Cultivating work, 6th class
- Exercise in Czech language, 7th and 8th classes

Coding: from the thematic area "Theory of Information"
- Mathematics, 4th class
- Czech language, 6th class
- Mathematics - secondary school
- Paramilitary education - secondary school

The said handbook may be considered as the model approach to the methodology of information training; an approach which is not declarative, allows flexibility in curriculum development and as feedback may endorse the introduction of information training into teaching aids. After a certain generalization the methodology may be applied also in other national and language conditions. And finally, it may serve teachers not only in the classroom but also in their inter-subject cooperation and in the dialogue between educators and information specialists.

3.5 Literature - Chapter 3

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35. Unesco. Changing the role of a school library. A systems approach to teaching and learning procedures: a guide for educators in developing countries. Paris, Unesco 1975. 144 p.

36. Unesco: Guide for the conversion of school libraries into media centres. Paris, Unesco 1977. 62 p. - Educational studies and documents, no.22.

37. VACKOVÁ,M.: Uplatnění informační výchovy v koncepci nové československé výchovně vzdělávací soustavy. /Application of information training in the concept of the new Czechoslovak educational system./ In: Výchova mimo vyučování, no.3. /Textbook for educational personnel training for the new approach to educational activities./ Ed. by E.Wágnerová. Praha, Státní pedagogické nakladatelství 1983, p.21-38.

38. VACKOVÁ,M.: Základy informatiky v učebním procesu na středních školách. /Fundaments of information training in the educational process at secondary schools./ In: Český jazyk a literatura, no.3. /Textbook for educational personnel training for the new approach to educational activities./ Praha, Státní pedagogické nakladatelství 1983, p.74-95.

39. WEERT,T.van,ed.: A modell syllabus for literacy in information technology for all teachers. Brussels, ATEE 1984. 22 p.

40. WET,J.J.de: Teacher education for the information age. Paper presented at 9th ATEE-Conference, Linz, Austria, 3-7 September, 1984. -/Abstr.see 4-1, p.197-199./

41. WILSON,T.D.: The investigation of information use and users needs as a basis for training programmes. International forum on information and documentation, 2, 1977, no.4, p.25-29.

42. WILSON,T.D.: Guidelines for developing and implementing a national plan for training and education in information use. Paris, Unesco 1981. 50 p. - UNISIST. PGI/80/WS/28.

4 SUPPLEMENTS

4.1 Examples of the International Bibliographic Data Bases in Education

4.1.1 Example of the search on "In-service Teacher Education" from the ERIC computerized system (see Section 1.2.2)

statistically significant results inexpensively and are helpful to special and regular education students regardless of economic level. Interviews with Oregon teachers who participated in implementing precision teaching techniques in mathematics and reading instruction confirm that charting procedures were generally less rigidly followed after the initial year. Cited as factors in successful implementation are teacher dedication, administrative support, and economic conditions. Sample charts are appended. (MJL)

-168-
AN - EJ293211
CHAN- EC161052
TI - Results of an Inservice Program for Instructors of the Talented and Gifted
AU - Weslander, Darrell
SO - G/C/T; n30 p51-53 Nov-Dec 1983 (1983)
IS - CIJMAY84
DT - 080; 142
LA - English
IT - Elementary Secondary Education; *Gifted; *Inservice Teacher Education; *Mainstreaming; Program Effectiveness; Resource Teachers; Teaching Methods
AB - An inservice program for regular class teachers of mainstreamed gifted and talented elementary and secondary students was conducted by resource teachers and involved consultation, workshops, and on-site visits. Evaluation revealed that close support by resource teachers prompted more open-ended and individualized assignments and greater student flexibility. (CL)

-169-
AN - ED238182
CHAN- EA016281
TI - Implementing Computer Technology in School Systems
AU - Gilchrist, Richard; Sanders, Hugh A.
OS - Alberta Dept. of Education, Edmonton. Planning Services Branch.
SO - Jun 1983; 159pp
NO - A study conducted on behalf of the Board of Education of the County of Grande Prairie No. 1 and Alberta Education.
LO - Canada; Alberta (Foreign)
IS - RIE84MAY
AV - EDRS Price - MF01/PC07 Plus Postage. (2 MF).
DT - 143
LA - English
IT - *Adoption (Ideas); Computer Assisted Instruction; Computer Literacy; *Computer Oriented Programs; Educational Technology; Elementary Secondary Education; Foreign Countries; Inservice Teacher Education; *Rural Schools; Tables (Data)
ST - *Alberta
AB - This study develops a model for introducing computers into the schools of the County of Grande Prairie, Alberta (Canada), and by

4.1.2 Example of the bibliography "EUDISED EP BULLETIN" (see Section 1.2.2)

07/00219
Gretler, Armin
Rekurrente Bildung in der Schweiz. Auf dem langen Weg von der Idee zur Wirklichkeit.
L'education recurrente en Suisse.
Bildungsforschung und Bildungspraxis, 2/1980/1, 90— 108.
ISSN 3—264—00012—1
30400; 11400; 30400; 27100
staendige Weiterbildung; Schweiz; Trendbericht; Bildungspolitik; Bildungsreform
lifelong education; Switzerland; trend report; educational policy; reform of education
education permanente; Suisse; report de tendances; politique de l'education; reforme de l'enseignement
Es wird zu zeigen versucht, wo etwa auf dem langen Weg von der Idee zur Verwirklichung sich die rekurrente Bildung in der Schweiz befindet. Dabei wird die Verbreitung der Idee ueber verschiedene Bereiche des Bildungswesens und entsprechende Interessengruppen einerseits und von entscheidungsfernen zu entscheidungsnahen Instanzen anderseits untersucht. Anschliessend wird ein Ueberblick gegeben ueber Ansaetze zur Verwirklichung von Elementen der rekurrenten Bildung in den verschiedenen Bereichen des Bildungswesens (obligatorische Schule, Sekundarstufe II, tertiaerer Bereich, Erwachsenenbildung). Es wird festgestellt, dass das Konzept der rekurrenten Bildung zwar an Beachtung und Bedeutung gewonnen hat und auch einzelne Ansaetze zur Verwirklichung auszumachen sind, dass insgesamt aber in der Schweiz noch keine entscheidenden Entwicklungen auf ein nach dem Prinzip der Rekurrenz gestaltetes Bildungswesen hin stattgefunden haben.

07/00220
Ruesch, Ernst
Die paedagogische Arbeitsstelle des Kantons St. Gallen.
Le Centre Pedagogique du canton de St—Gall.
Bildungsforschung und Bildungspraxis, 1/1979/2—3, 56— 66.
ISSN 3—264—00011—3
30400; 27100; 23300
Bildungsforschung; Bildungspolitik; Innovation
educational research; administration of education; educational policy; innovation
recherche educationnelle; administration de l'enseignement; politique de l'education; innovation
In mehreren Schweizer Kantonen sind im Rahmen der Schulverwaltung paedagogische Forschungs— und Entwicklungsstellen geschaffen worden, wobei verschiedenartige Formen verwirklicht wurden. Die 1969 gegruendete paedagogische Arbeitsstelle im Kanton St. Gallen ist ein Beispiel dafuer. Die Organisation und Arbeitsweise der Arbeitsstelle sowie ihr Einbezug in den schulpolitischen Entscheidungsprozess werden erlaeutert. Als Beispiele wichtiger Projekte der Paedagogischen Arbeitsstelle werden die Reform des Mathematikunterrichts, Schulversuche mit verschiedenen Differenzierungsformen auf der Sekundarstufe I und die Einfuehrung des Fachs 'Lebenskunde' dargestellt.

07/00221
Trier, Uri Peter
Was kann die Erziehungswissenschaft fuer die Primarschule in der Schweiz tun?
Que peuvent les sciences de l'education en faveur de l'ecole primaire en Suisse?
Bildungsforschung und Bildungspraxis, 2/1980/1, 29— 43.
ISSN 3—264—00012—1
30400; 27100; 27200; 11300
Bildungsforschung; Theorie; Primarschule; Innovation; Bildungsreform
educational research; theory; primary school; innovation; reform of education
recherche educationnelle; theorie; ecole primaire; innovation; reforme de l'enseignement
Ausgehend von Schwierigkeiten im Verhaeltnis der Erziehungswissenschaften zum Bildungswesen, werden prioritaere Zielbereiche der Forschung gesucht. Dabei werden der Forschungsstand, Beduerfnisse der Forscher, Beduerfnisse der Lehrer sowie das Problem des normativen Horizonts der Schule herangezogen. Einige inhaltliche Forschungsschwerpunkte werden zur Diskussion gestellt. Aus Ueberlegungen zur Forschungsorganisation ergeben sich abschliessend ein paar Vorschlaege.

Finnland — Finland — Finlande

07/00222
Kaeppi, Pekka
Tuntikehysjaerjestelmaa ja siitae saatuja kokemuksia.
The lesson framework system and experiences gained from it.
The Finnish Journal of Education Kasvatus, 12/1981/3, 153—156.
ISSN 0022—927—X
30400; 23300; 19400; 12100
Bildungsverwaltung; Gruppierung; Bildungsplan; Unterrichtsprogramm; Kreisverwaltung
administration of education; grouping; curriculum; teaching programme; local government
administration de l'enseignement; groupement; programme d'etudes; programme d'enseignement; administration locale
The lesson framework system gives the municipal system and the school included in it more decision power in the division of lessons and in the formation of teaching groups than they have

4.1.3 Example of the search on "In-service Teacher Education" from the DOPAED computerized system (see Section 1.2.3)

DIETLMAIER, F.G.
ZWEITSTUDIUM STEUERLICH BERUECKSICHTUNG[illegible]
BAYRISCHE SCHULE, NR.2, 1975
1975 AL 934
HO BAYERND STUDIUMFORTBIERWISSABSCHLBERUF
DEUTSCHESCHIAUSBIGBERUF PHASBDDIFFERGESTELLVSSCHU
LEHRERBIPLOMPAEDAGFINANZ
STANDORT: ARBEITSGRUPPE LEHRERAUSBILDUNG 934
1117100

DILGER, BERNHARD
POLEN
CARITAS. JAHRG. 74, H. 3, 1973
1973 AL 1729
AL PL BILDUNGILPOLFILWESPAEDAGSCHULESYSTEM
VORSCHLRUSCHSONSCHULGARTHOSCHUERWACHLSHPLEBOLYTE
CURRICBERUF LEHRERWEIBILFORTBIABEND SEKSTUFSKUND
STANDORT: ARBEITSGRUPPE LEHRERAUSBILDUNG 1729
2723900

DOEBRICH, PETER
KOLBE, MANFRED
KODRON, CHRISTOPH
LYNCH, JAMES U.A.
REFORMEN IN DER LEHRERAUSBILDUNG IN OST- UND
WESTEUROPA-EIN BILDUNGSVERGLEICH-
1978 AL 5052
LF D SCHLHOFL GB REFORMKONZEPLEHRER
AUSBIGVERGLEBESOLDLEHBEDFORSCHPROJEKBERUFSCALLSCH
WISSENTNTEGRTHEORIPRAXISFORTBIORGANTSYSTEMWEITBIL
STANDORT: ARBEITSGRUPPE LEHRERAUSBILDUNG 5052
7397000

DOEBRICH, PETER
KODRON, CHRISTOPH
SACHSENMEIER, PETER
ZWISCHENBERICHT DES FORSCHUNGSVORHABENS:
MEDIENEINSATZ IN DER LEHRERFORTBILDUNG IM
INTERNATIONALEN VERGLEICH
1978 AL 4010
LF D F GB S DK VERGLFORSCH
MEDIENLEHRERFORTBIANALYS
FRANKFURT AM MAIN 1978
STANDORT: ARBEITSGRUPPE LEHRERAUSBILDUNG 4010
7218600

DOEBRICH, PETER
KODRON, CHRISTOPH
DIE CHARTA DER RECHTE UND PFLICHTEN DES LEHRERS
UND VERORDNUNG DES MINISTERRATS DER VR
POLEN VOM 27.4.1972
1975 AL 1257
LF PL LEHRERROLLE RECHT SOZIOLSTATISAUSGAB
BESOLDQUALIFAUSBIGFORTBIGESETZBEDARFGEWERKARZEIT
ARBEITVERGLEPERWESPOLITINFSOPEHOSCHUSCHULESOZIARB
INTERAGLA DOKUMENTATION AM DEUTSCHEN INSTITUT
FUER INTERNATIONALE PAEDAGOGISCHE FORSCHUNG,
FRANKFURT A.M.
STANDORT: ARBEITSGRUPPE LEHRERAUSBILDUNG 1257
1594500

4.1.4 Example of the abstract bulletin "Pedagogika i narodnoje obrazovanije v socialističeskich stranach" (see Section 1.2.4)

Б 65
УДК: 37.014.542 Страна: ЧССР

Автор	Петрачек С. Petráček S.
Институт	Европейский информационный центр Карлова университета по повышению квалификации учителей

Заглавие	Избранные главы к вопросу теории планирования социалистического образования Vybrané kapitoly z teorie plánování socialistického školství
Библиографические данные	Карлов университет, Прага 1979 Univerzita Karlova, Praha 1979
Ключевые слова	Развитие образования – теория планирования – система планирования – общественные потребности – школьный потенциал – специфичность образования

215

Р е ф е р а т. Предоставленная монография уделена попытке кратко охарактеризовать теорию и систематику планирования развития социалистической учебно-воспитательной системы. Это методическое исследование, возникшее в результате существенного сокращения одноименной аналитической работы, разработанной в пределах решения соответствующей научно-исследовательской задачи. Она представляет собой скромный вклад в дело дальнейшего повышения уровня организации, планирования и управления народным образованием.

Указывая на множество методических и практических проблем в области организации, планирования и управления развития теоретического исследования и реализации эффективных

мероприятий в области народного образования.

Содержание монографии подчеркивает значение теории планирования развития народного образования, широко описывая эту организованную и целенаправленную познавательную деятельность, ее значительные практические следствия, обращая внимание на систему используемых в ней методов, определенного языка, определенных совокупностей данных и т.п.

Монография помимо введения, послесловия и библиографического перечня подразделяется на пять обширных глав.

Первая глава кратко характеризует теорию и систематику планирования развития социалистического просвещения. Читатель знакомится с принципами организации и управления чехословацкой учебно-воспитательной системой, с концепцией школьной политики по отношению к планированию развития народного образования и с изложением понятия планирования развития народного образования. Значительная часть первой главы уделена для характеристики принципов, предмета и содержания планирования развития народного образования, проблематике намечения целей этого развития, значения стратегии и времени в процессе планирования развития народного образования. Особое внимание уделено отношению планирования развития народного образования к экономическим законам, административным аспектам планирования деятельности и значения прогнозирования. Заключительная часть первой главы занимается основными типами деятельности, связанными с планированием развития народного образования, а именно с намечением исходного состояния, обработкой проекта плана, его обсуждением и одобрением, с его реализацией, оценкой и контролем.

Вторая глава кратко описывает методику определения общественной потребности в образовании. В рамках данной главы приведены также задачи теории и систематики планирования развития народного образования и значение исследования развития науки и техники для определения общественной потребности в образовании. Центром тяжести главы является харак-

4.1.5 Example of the search of "In-service Teacher Training" from the computerized Unesco data base (see Section 1.3.1)

22/03/84 LAD

IN-SERVICE TEACHER TRAINING IN EUROPE, USA AND CANADA

PROCHAZKOVA, HANA DR. (PROJECT - IPS

Remedial instruction: Malta - (mission)

McNicholas, James. 25 Apr. 1983. 16 p. (Participation and co-operation for development programmes) (eng).
KEYWORDS: remedial instruction; primary education; secondary education; in-service teacher training; Malta.
(56222) DOC CODE: FMR/ED/SCH/83/120; PP/1981-1983/I/5.3/03/Technical report. MICROFICHE: 83fr0134. (Restricted).

Science equipment centres in Belgium

Lowe, Norman K.. 1983. p. 106-108, illus. (New trends in school science equipment) (eng).
KEYWORDS: science education; educational equipment; Belgium - in-service teacher training; modes of production.
(57692) CALL NO: 5(07) NEW.

Teacher education in the classroom: initial and in-service

Ashton, Patricia; Henderson, Evan S.. London, Croom Helm, 1983. 143 p., map. (eng; abstr. in eng). Incl. bibl.
KEYWORDS: in-service teacher training; UK - educational projects; project evaluation; case studies.
// IT-INSET Project
(57846) CALL NO: 371.14(410) TEA. ACCESSION NO: HB645/ED/SCH. ISBN: 0-7099-1248-x.

The Teaching of primary science: policy and practice

Richards, Colin; Holford, Derek. Sussex, Eng., Falmer Press, 1983. 275p., illus. (eng). Incl. bibl.
KEYWORDS: science education; primary education; primary school curriculum; in-service teacher training; UK - educational assessment; curriculum development; educational resources; teaching strategies.
(58065) CALL NO: 5(07)(410) TEA. ACCESSION NO: HB667/ED/STE. ISBN: 0-905273-35-4; 0-905273-34-6(pbk).

Training teachers for educational work in the area of humanization of relations between the sexes

Vukasovic, Ante. Zagreb, University of Zagreb, 1982. 269 p. (eng). (Publications of the Institute of Education, Faculty of Philosophy, University of Zagreb, vol. 28, 1982). Incl. bibl.
// University of Zagreb (Yugoslavia). Institute of Education
KEYWORDS: social workers training; social work; teacher training; in-service teacher training; Yugoslavia - teacher training curriculum; interdisciplinary approach.
(57214) CALL NO: 371.13:613.88(497.1) TRA. ACCESSION NO: 371/83.

4.1.6 Example of the presentation of ETC-PET publications in the ERIC system (see Section 1.4.3)

DOCUMENT RESUME

ED 195 520 SP 017 119

TITLE	Newsletter EIC-PET. Series--Information Review. Vol. 3, No. 2.
INSTITUTION	European Information Center of the Charles Univ. for Further Education of Teachers. Prague (Czechoslovakia).
PUB DATE	Nov 79
NOTE	137p.: Parts marginally legible.
LANGUAGE	English: Russian
EDRS PRICE	MF01/PC06 Plus Postage.
DESCRIPTORS	*Comparative Education: Educational Quality: *Educational Trends: *Foreign Countries: Higher Education: Inservice Teacher Education: *International Educational Exchange: Professional Development: Student Teacher Relationship: *Teacher Education: Teacher Effectiveness: Teacher Influence: Teacher Role
IDENTIFIERS	*Europe (East)

ABSTRACT

This newsletter reports on significant events organized by the European Information Centre of Charles University, Prague, and on activities in the field of further education of teachers in Europe. Reports on the following topics are included: (1) new trends in teacher education in the contemporary world: (2) perspectives on the life-long education of teachers in an international survey: (3) concept and research of the preparedness of teachers for the performance of their profession: (4) new teacher professionalism: (5) role of the teacher in forming the personality of the young generation in a socialist society: (6) international project on innovative approaches to the inservice education of teachers: (7) survey of the main trends of development in the further education of teachers in the USSR: (8) programs and aids for the further education of teachers in East Germany: (9) forms of cooperation between educational science and teaching practice in the USSR: (10) project of the system of education professions, qualifications, and specializations in Czechoslovakia: and (11) information sources on inservice teacher education in the ERIC system. An annotated bibliography contains references to further writings on education in the socialist countries. (JD)

4.1.7 Example of the inclusion of BIC-PET publication in the library catalogue of Unesco-IBE in Geneva (see Section 1.4.3)

00270

Report of the National Inquiry into Teacher Education. Auchmuty, J.J. Canberra, Australian Government Publishing Service, 1980. 267 p., tables. (eng). Chapter bibliographies. // National Inquiry into Teacher Education (Australia). Committee

KEYWORDS: teacher education; teacher role; teacher improvement; social change; teacher selection; teacher educators; teacher education curriculum; teachers colleges; educational research; Australia -

(00270) CALL NO: 371.13(94) A IV INQ. ISBN: 0-642-05088-0.

00378

Training in curriculum development and educational technology in higher education. Fraut, Michael; Connors, Brendan; Newton, Eric. Guildford, Surrey, SPHE, University of Surrey, 1980. 91 p., fig., tables. (Research into higher education monographs; 41) (eng) Bibl.: p. 87-91. // Society for Research into Higher Education (UK)

KEYWORDS: teacher improvement; college teachers; inservice courses; curriculum development; educational technology; research projects; UK -

(00378) CALL NO: 371.14(420) FRA. ISBN: 0-900868-77-5.

00398

Further education of special teachers/Povysenie kvalifikacii special'nych pedagogov/Dalsi vzdelavani specialnich pedagogu. Prague, European Information Centre of the Charles University for Further Education of Teachers, 1980. 424 p. (various texts in cze, eng, rus; abstr. in cze, eng, rus). Final report and papers presented at the Symposium. // Charles University (Czechoslovakia). European Information Centre for Further Education of Teachers // International Symposium on Further Education of Special Teachers, Prague, 1977

KEYWORDS: special education teachers; inservice teacher education; teacher improvement; special education; regional cooperation; Europe; conference report -

(00398) CALL NO: 371.14(4) A IV SPE.

00456

Further education of teachers: selective bibliography/Povysenie kvalifikacii ucitelej: vyborocnaja bibliografija. Vol. 1 (1970-1976)- Prague, European Information Centre of the Charles University for Further Education of Teachers, 1978- (same text in eng, rus). (Series Annotated bibliography). Biennial. For state of collection, see Harder. // Charles University (Czechoslovakia). European Information Centre for Further Education of Teachers

KEYWORDS: inservice teacher education; teacher improvement; educational personnel; teacher education; Eastern Europe; Western Europe; USA; bibliography; abstracts -

(00456) CALL NO: Ref. 016:371.14(100) FUR.

4.1.8 Example of the bibliography "In-service Teacher Education" prepared by HIC-PET in Prague under contract with Unesco and published by IBE in Geneva in Educational Documentation and Information, no.218/219 (see Section 1.4.3)

249. Universidad Javeriana. Universidad Javeriana: programa Universidad abierta. *In: Taller sobre necesidades educativas básicas de la población rural de Colombia.* Bogotá, 1976, p. 54-59.

The university extension work of the Javeriana University in Colombia includes a multi-media distance education programme for in-service teacher education. Correspondence courses are reinforced by television, group discussion, student interaction, and correspondence tuition. Modular written materials are in use. In 1976, 1,640 students were registered in refresher courses for mathematics, mother tongue, and methodology for teachers and educational personnel working in rural areas. The cost of one course, including eight to ten modules and correspondence tuition, was 300 Colombian pesos.

250. Univerzita Komenského, Bratislava. Ústav pre učiteľské vzdelávanie. *Štúdie o učiteľskom vzdelávaní. 4* [Studies on teacher training, 4]. Bratislava, 1975. 296 p.

Studies in this collection should contribute to the solution of some topical questions of initial and in-service teacher training. While attending training college, great attention is being paid to the forming of the teacher's personality. There are three main problem areas: (a) the content of teacher training; (b) training teachers for grades 1-5; (c) post-graduate studies particularly for teachers of physics, biology and the Slovak language. The final part includes information on the present system of initial and in-service teacher training in Czechoslovakia, as well as the systems of education, and initial and in-service teacher training in Bulgaria, German Democratic Republic, Hungary, Poland, Romania and the USSR.

251. Vaughan, J. Government investments in R&D on inservice: NIE's role. *Journal of teacher education* (Washington, D.C., American Association of Colleges for Teacher Education), vol. XXX, no. 1, January-February 1979, p. 33-35.

NIE feels that it has an important role to play as a contributor and participant in the process of bringing together the respective needs and expertise of the various constituent groups involved in in-service teacher education research.

252. Velčkov, I. Sándorova na Centrálnija institut za usăvărŝenstvuvane na učiteli i dejnostta na katedra 'Načalno obrazovanie' [Establishment of the Central Institute for the Further Education of Teachers and the activity of the Department for Schools of the First Level]. *Načalno obrazovanie* (Sofija), god. 18, kn. 11, 1978. p. 1-4.

Brief survey of the activities of the institute in Sofia on the occasion of the twenty-fifth anniversary of its establishment.

253. al-Warša az-zaʿīmiyya fī ʿamaliyyāt wa-asālīb tadrīb al-muʿallimīn qaʾīm al-Qāhira, al-Qāhira, 1977. *az-Taqrīr an-nihāʾī* [Final report]. al-Qāhira, al-Munaẓẓama al-ʿarabiyya li-t-tarbiya wa-ṯ-ṯaqāfa wa-ll-ʿulūm, 1977. 19 p., appendices.

Final report of the Educational Workshop on the Processes and Methods of On-the-job Training of Teachers held in Cairo from 1-20 February 1977. The document ends with two appendices: the questionnaire circulated among participants to find out their opinion on the workshop; and the recommendations adopted by the workshop which called for spreading training awareness, holding meetings with and exchanging visits among training experts in Arab countries, and establishing an Arab centre for the in-service training of teachers.

254. Watson, P.; Mbaum, Asuvo A.; Vaudoyn, R.G. *An evaluation of the post-graduate training programme for teacher education at the College of Education, University of the Philippines, and the Asian Institute for Teacher Educators, Quezon City, Philippines – (mission) 2 April-4 May 1972.* Paris, Unesco, 1972. 195 p., bibl. (EID-Unesco) [Unesco microfiche 7360062 (Restricted)]

This document presents: (a) post-graduate courses for teachers from South-East Asia organized from 1962 to 1971 by the College of Education, University of the Philippines;

226

4.1.9 Example of the Bibliography "In-service Teacher Education" prepared by EIC-PET in Prague under contract with Unesco and published by IBE in Geneva in Bulletin of the International Bureau of Education, no. 234/235 /see Section 1.4.1/

methods and techniques, the experiences of others and practical management. Further training should fulfil general, specific and individual requirements. General requirements are laid down in Party documents and are applicable to all categories of managers. Specific requirements are related to educational problems and the school system. Individual requirements are connected with preparation and work experience, interest in self-education, and further training. Course content includes policy and ideology, educational psychology and vocational interests.

75. Jordanov, P. Sistemata kŭm kvalifikacija: nova forma za stimulirane na sleddiplomnata kvalifikacija na uchitelite i rŭkovodnite kadri na narodnata prosveta [The system of qualification classes: a new way of stimulating the further education of teachers and managerial personnel in the school system]. *In:* Cingilov, T., comp. *Problemi na sleddiplomnata kvalifikacija na pedagogicheskite kadri*. Sofija, Centralen institut za usŭvŭrshenstvuvane na uchiteli i rŭkovodni kadri 'Veln Blagoev', Ministerstvo na narodnata prosveta, 1980, p. 53-64.

Decrees in 1966 and 1973 by the Council of Ministers of Bulgaria set up three levels of qualification for teachers. The achievement of a higher class leads to increased salaries. Qualification requires: two years of practice in the same school and good results for the third class; passing written and oral examinations in the presence of a board for the second class; and twelve years of practice with a creative approach to the profession for the first class. The system has provided a good incentive for the lifelong self-education of teachers. Research undertaken in this field and the financial, moral and professional motivation for acquiring a higher qualification are discussed. The results of a survey on the fulfilment of school tasks and the qualification levels of teachers and managerial educational personnel are presented.

225

76. Kagal'nijsh, A.I.; Bendavskaja, O.N. Opyt izuchenija professional'noj adaptacii molodyh uchitelej [Experience with the professional adjustment of young teachers]. *Sovetskaja pedagogika*, no. 9, 1981, p. 99-102.

Professional adjustment to educational activity presents difficulties in the theory and practice of teacher education. Researchers have discovered several stages during professional adjustment: (a) training for work during secondary education; (b) selection of a profession; (c) professional training; and (d) the beginning of practical work. Special attention is given to the fourth period because the time devoted to educational practice in the curricula of teacher training establishments has been cut. The process of adapting the beginning teacher to the conditions of educational activity is an extremely important period in the formation of educational skills. The attitude and behaviour of the school principal and educational staff is vital to the beginning teacher. Research on professional adjustment should uncover insufficiencies in the training of student-teachers, and suggest improvements.

77. Kahn, H. Teachers' centres — their aims, objectives and philosophy: a Commonwealth perspective. *British journal of in-service education*, vol. 9, no. 2, Winter 1982, p. 75-80.

'The handbook of teachers' resource centres' is a result of the meeting of experts organized by the Education Department of the Commonwealth Secretariat, entitled 'Teacher support services' (Auckland, New Zealand, 1982). The contents of the handbook will cover teachers' centres and their organization and administration. Much material from Commonwealth countries is applicable to centres elsewhere in the world. In part 1, new relationships

between the students and their teachers, and these teachers and managers in the education system, the concept of professional growth, professional support, the relevance and flexibility of the programme of courses, and the centre's location and atmosphere are discussed. The second part discusses activities related to teacher initiation; the third part describes the day-to-day running of centres.

78. Kaplan, P. *The cost and efficient utilization of resources. Synthesis report*. Paris, Centre for Educational Research and Innovation, Organization for Economic Co-operation and Development, 1980. 87 p. (In-service education and training of teachers: towards new policies)

This study of cost and efficient utilization of resources for the in-service education and training of teachers (INSET) is the result of concurrent and sometimes conflicting trends in OECD member countries. Certain trends suggest that INSET should be expanded and resources should be diverted from initial teacher training to INSET, particularly in view of the decline in compulsory education enrolment and consequent reductions in the number of new teachers. However, in many Western countries, there is a trend to cut overall educational expenditure. This study considers questions of efficiency and effectiveness in INSET, including questions of: how much such programmes cost; what resources can be mobilized to meet these costs; who should finance them; whether and how cost-effectiveness can be judged, and what organization is likely to produce the best results?

79. Kent, D. School-based in-service and the providers. *British journal of in-service education*, vol. 9, no. 1, Autumn 1982, p. 22-26.

Aspects of school-based in-service training of relevance to INSET providers are reported. Other issues connected with school-based in-service training also are discussed: greater participation by teachers in planning and execution; development of teacher counselling services; the policy of decision making bodies; control and consultancy; voluntary/compulsory motivation; and rights and responsibilities. Most data come from in-service developments in the south-west of England. In such county schools can mount their own in-service training programmes through teachers' centres or centralized local education authority advisory services. In-service training is also provided by colleges, institutes of further and higher education and universities.

228

80. Kelemen, E. A pedagógus továbbképzés szerepe a pedagógusok szakvállalásában [The role of in-service training within teacher education]. *In: A Szocialista szakma – a szocialista szakmaiság*. Budapest, Magyar Pedagógiai Társaság, 1981, p. 473-483.

According to the 1969 ministerial ordinance on the regulation of in-service training for teachers, different forms of training have been developed, e.g. a practical, comprehensive course to unify theory and practice, and one-year professional methodological courses organized by institutes of teacher training. The trend is towards postgraduate training, and the position of institutes for teacher training must be settled and their departments strengthened. Institutes for teacher education and teacher centres are responsible for teacher training in their regions. The responsibility of the central administration is to determine basic principles, specify tasks, create material and establish employment conditions. In-service education of teachers should serve Hungarian educational policy. In-service courses are divided into three basic activities: lifelong self-education; continuous awareness; and organized, post-graduate in-service education.

4.1.10 Example of abstracts currently prepared by UIC-FET in Prague under contract with Unesco for IBEDOC computerized data base in Geneva (see Section 1.4.3)

of knowledge: reproduction according to a model; reproduction with a redesign; the application of knowledge according to the model of the solution of tasks of reproductive character; creative application of knowledge; finding new knowledge and methods of their acquisition during the solution of research tasks. For the intensification of the linkage between theoretical and practical training of teachers it is necessary: to include course attendees in the solution of educational tasks which contributes to the optimum combination of learning knowledge and its practical application; to transfers scientific knowledge with reference to the specificity of the subject in the process of its interpretation, as well as in independent cognitive activity; to implement combined types of instruction oriented to the creative development of teachers. Optimum linkage of theory and practice in the process of training teachers will be achieved if the synthesis of psychological-educational methodological knowledge and knowledge of a respective subject will create a basis for the development of the creative approach of teachers toward their educational activity.

02553

Paduireva, Kalina; Nerozeva, Petja. Upravlencheskata dejnost i kvalifikacijata na rakovoditelite v uchebite zavedenija [Managerial activities and qualifications of the managers of school facilities]. Sofia, Ministerstvo na narodnata prosveta, Sojuza na bulgarskite ucitell, 1980. p. 45-51. Narodna prosveta; kn. 1, 1980. (bul).

Descriptors: Bulgaria; educational facilities; inservice education; instructional programmes; principals; school administration -

The authors deal with the developmental trends in inservice education of the managers of school facilities and approach this problem on the basis of research into the system of managerial activities pertinent to school organization. These activities are aimed at system cognition of the state of educational process from the viewpoint of party and government directives, curricula and instructional programmes. In concordance with the respective research findings, the authors recommend the managerial personnel to improve their qualifications, to raise their knowledge of educational theory and methodology. These recommendations are based on the teachers' opinions. They are shared by the principals who, moreover, recommend the acquirement of a more profound knowledge of school management and organization, educational psychology, personality theories, social psychology and principles of the educational process.

02554

Chambers, P. The Professional preparation of teachers: training students for schools "as they are" London, National Association of Teachers in Further and Higher Education, 1981. p. 15-25. Journal of further and higher education; vol. 5, no. 2, Summer 1981. (eng).

Descriptors: beginning teachers; courses; curriculum development; educational practice; educational theories; further training; higher education; junior colleges; knowledge level; models; secondary school teachers; teacher education; teaching; teaching conditions; teaching skills; UK -

In this article, the author discusses the one-year professional training courses preparing students for their first teaching appointments. He starts by quoting the HMI Consultative Document on training secondary school teachers which states that: "Students must be trained for school as they really are and not for idealised conditions." After an analysis of this prescription, the author suggests some of the consequences of such a type of training. He refers to the four element model of professional studies proposed by P.H. Hirst in 1979 - knowledge, practical judgement, skills, dispositions - and to Bradford College's proposals for a policy for teacher education. Problems emerging in teacher education are dealt with under four

4.1.11 Example of selective bibliography "Further Education of Teachers" issued by EIC-PET in Prague, the English text of the bi-lingual version (see Section 1.4.3)

371.14 (47) 63
Educational personnel - principals -
inservice education - USSR

JAGODKIN, V.

Nasuščnyje zadači povyšenija kvalifikacii pedagogičeskich kadrov. /Topical problems of qualification improvement of educational personnel./
Narodnoje obrazovanije, 1979, No.7, p.13-17.

The main tasks of the qualification improvement system of educational personnel in the Soviet Union. The necessity of preparing the teacher for a successful fulfilling of tasks in the spheres of ideology, work and moral education and the development of independent thinking of the pupils. Organization of departments and cabinets of education and psychology at institutes of inservice education of teachers. Preparation courses for future school administrators. Inservice education of school principals and other leading educational personnel.

IS DVU 58

371.14/15 (437) 64
Teachers - inservice education - Czechoslovakia

JARÁBEK, K.

Úloha a vzdelanie učiteľov pod vplyvom zmien v socialistickej spoločnosti a školstve. /The role and the training of teachers under the influence of changes in socialist society and school./
Pedagogika, 29, 1979, No.2, p.121-132.

The author tries to show the significance of the inservice education of teachers in contemporary socialist society: educational personnel as one of the elements of the educational system; the concept of social role; the social and professional role of the teacher; social engagement of the teacher; different understanding of the teacher s role by the public; historical development of two groups of teachers; trends towards an integration of the teaching profession and education; social starting points of the change of the teacher s role; dissatisfaction with the pedagogical component of the teacher s profession; integration of theoretical dis-

4.1.12 Example of selective bibliography "Further Education of Teachers" issued by HIC-PET in Prague, the Russian text of the bi-lingual version (see Section 1.4.3)

37.01:327.3(489) 248
Учитель - воспитание в духе мира и международного взаимопонимания - проект - ЮНЕСКО

СТРУВЕ, Камма

The Danish Unesco Schools Project. /Проект народного образования ЮНЕСКО в Дании./
Prospects, 9, 1979, № 2, с. 203-209.

В статье дается оценка девятнадцати лет существования проекта народного образования ЮНЕСКО в датских школах. Проект направлен на содействие взаимопониманию между народами посредством воспитания в учебных заведениях. Проект содержит следующие главные виды деятельности: курсы и семинары для учителей, сбор и рекомендация подходящего учебного материала и пособий, собственные проекты в избранных школах и классах.

ИС ПКУ 655

371.14:37.01:577.4 249
341.1
Учитель - воспитание к заботе о жизненной среде - подготовка - повышение квалификации - конференция - ЧССР

Subregional Workshop on Training of Teachers for Environmental Education. Final report. Prague - Hluboká, CSSR, 13th-17th October 1980. /Субрегиональный семинар о подготовке учителей по делам воспитания к заботе о окружающей среде. Заключительное сообщение./ Прага, Глубока, ЧССР, 13-17 октября 1980.
Прага 1980. Прерывистая пагинация.
Организатор: Европейский информационный центр Карлова Университета по повышению квалификации учителей.

Заключительное сообщение международного семинара, на котором обсуждалась проблематика воспитания к заботе о окружающей среде, особенно что касается подготовки учителей и повышения их квалификации, прежде всего для учебных заведений 1-го и 2-го циклов.

ИС ПКУ 563

4.2 Examples of Documents Regulating Information Training of Teachers

4.2.1 Course for All Teachers on the Use of Information Resources and Libraries /Unesco 1984/[3-32]

Course Content - Detail

Section 1: The Teacher Needs Information and Resources

1.1 Information, sources and resources

1.2 Types of information resources

1.3 Systematic information-seeking

Section 2: The Teacher Uses Resources in Teaching and Learning

2.1 Function and utilisation of resources in teaching and student learning

2.2 Evaluation and selection of specific information resources

2.3 Integration of resources in curriculum planning

2.4 Evaluating the effectiveness of information resources used in the classroom

Section 3: The Teacher Uses Libraries Effectively

3.1 Libraries and other information agencies

3.2 Using library resources

3.3 School library services for teachers

(In the treatment of this section, attention should be directed to what is actually available as well as what might be desirably provided).

Section 4: The Teacher Locates Information

4.1 Locating information about information sources, required information in print materials

4.2 Locating information in print resources

4.3 Locating information in non-print (including audiovisual) resources

(It is suggested that attention be given to readily available materials from: Radio, Cassette recorder, Camera, as this equipment may be more frequently owned by teachers or some students).

4.4 Using audiovisual equipment

Section 5: The Teacher Produces Information Resources

5.1 Design, development and evaluation of resources

5.2 Preparation of audiovisual resources

(A note on Section 5 - The content and depth of treatment of the section depends on whether the pre-service teacher education course, and/or the in-service programmes for teachers, contain a required core component on educational media or educational technology or resource development. If there are such courses consideration should be given to the relation between that course and this proposed course so that the courses may be planned to complement each other. In that way, unknowing and unnecessary duplication may be avoided. Sufficient time for completion of both components is needed).

Section 6: The Teacher Assists Students to Use Information Resources

(This section should be presented in the light of the present situation of school library development, including the availability of teacher librarians in schools in the local area).

6.1 Introduction

6.2 Developing information location and usage skills

6.3 Promoting student resource awareness and usage

6.4 Supporting the library

Section 7: The Teacher Encourages Reading for Pleasure

7.1 Teacher and student attitudes towards reading for pleasure

7.2 Stimulation of interest in reading activities

7.3 Assisting students to develop selectivity and discrimination

4.2.2 Programmes of In-Service Training of Teachers in the Methodology of the Operation of a School Library (Poland, 1983)

Levels of Teacher-Librarian Specialisation

The programme was prepared by the Institute for In-service Teacher Education (IKM), Warsaw, approved by the Ministry of Education of the Polish People's Republic in 1983, under a general instruction issued by the Minister of Education in 1982 relating to the general principles of grading teacher specialisations.

1st level of teacher-librarian specialisation requires good results in specialised activity and indispensable knowledge in librarianship and the science of education.

2nd level is based on mastery in subject didactics, the skill of independent specialised work, systematic self-education and updating one's own teacher-librarian qualification.

3rd level is designed for individuals with a creative profile who have made outstanding achievements in their librarian and educational specialisations, this with innovation applications, publishing and lecture activity.

Programme of Pedagogical Training for Teachers of Primary Schools and of Other Educational Establishments, Relating to the Methodology of the Operation of a School Library

The programme was developed by the IKM, Warsaw, in 1983 on the basis of a directive issued by the Ministry of Education of the Polish People's Republic in 1981 concerning the upgrading of the qualifications of serving teachers. In its capacity of a complementary course it provides teacher-librarians with secondary specialised qualification.

The objective of the study course is to provide the attendees with the necessary library knowledge and the educational skills required by the post of the school librarian. With this is linked the understanding of the inter-disciplinary function of the school library, mastering the methods of educating pupils for self-education and information use, the enforcement of cooperation between the librarian and teachers of individual subjects.

The programme has a total of 260 working hours, the study course is terminated with two theses of explicitly practical character and a final examination relating to the methodology of the operation of a school library.

Programme of Pedagogical Training in Librarianship

The programme was developed by the IKN, Warsaw in 1983 on the basis of a document issued by the Ministry of Education of the Polish People's Republic in 1982 concerning compulsory teacher qualification and permitted exemptions from this obligation. A complementary study course provides higher education qualification in the specialisation "School libraries".

Admission to the study course is conditional on one year fellowship in a school library and attendance of a study course. The objective is to provide teachers with theoretical and practical training for work in the school library and to provide them with librarianship specialisation.

The study course involves 224 hours, of this 97 hours of lectures and 127 hours of practicals. Curriculum comprises: Theory of librarianship and library practice; Foundations of scientific information and the information function of the library; Educational work of the school library; Selected problems of readership; Readers needs of children with development handicaps; Theoretical problems and survey of the literature for children and youth; The library as a workshop for self-education and didactic work.

Within the last mentioned study area the attendees write three obligatory theses and prepare themselves for the final examination. The methodological handbook "Readership, Librarianship, Scientific Information" (Wrocław, 1982) has been published for students attending the study course.

4.2.3 Excerpt from "Interpretation of the Instruction on School Libraries" issued by the Ministry of Education of the Czech Socialist Republic (1984)[x]

Utilisation of School Library in Teaching/Learning Process. Preparation of Teachers in Training Pupils for Work with Information

1. The school library partakes of the educational work of the school by its specific methods and forms, such as lessons given in the area of the school library in compliance with the curricula, the use of books and information files in teaching/learning process in the classroom, in laboratories, etc.
2. The school library partakes of the preparation of teachers in training pupils for work with information by methodology sessions and by organising model lessons in cooperation with District Pedagogical Centres, Regional Pedagogical Institutes, and possibly with the public library.
3. In the preparation of teachers in training pupils for the rational use of scientific and technological information the heads of school libraries cooperate with the respective methodologist of the department for work with books of the Regional Pedagogical Institute, District Pedagogical Centre as well as with other departments. Training pupils for work with information is to provide them, in logical sequence, with fundamental knowledge on books and the library, of the use of bibliographic and information materials available in the library and of the methods and techniques of independent work with books and with other sources of information. If such training is to be effective it should become an integral component of everyday school education. Every teacher no matter what his specialisation should adapt his instruction methods to this demand, i.e., to use the methods of the educational process enriched by new non-conventional elements of work with the book.

   The teachers orient this training in such a manner as to teach in the pupils, within compulsory school attendance, the basic skills and habits of handling various information aids and to enhance their intellectual aptitudes allowing them to select, classify, process and utilise information. The aim of this training is to teach the pupils to independently acquire necessary knowledge. The teachers will proceed in compliance with the teachers' guide for

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x) Věstník ministerstva školství a ministerstva kultury ČSR, 40, 1984, no.8-9, p.112-113.

training pupils for work with information. In areas where methodology centres have as yet not been established the heads of school libraries may cooperate with public libraries, namely as concerns basic library and bibliographic questions. This should be implemented as to enable any class to spend at least one lesson of selected subjects in the public library every school year.

4.3 List of Abbreviations

AACTE	- American Association of Colleges for Teacher Education - ERIC Clearinghouse on Teacher Education
ADION	- abbrev. of the Holland computerized documentation and information system for education, a national application derived from EUDISED.
AERA	- American Educational Research Association
AIM/ARM	- data base covering the vocational and technical education, USA
APN	- Akademija pedagogičeskich nauk SSSR /Academy of Pedagogical Sciences of the USSR/
ATEE	- Association for Teacher Education in Europe
AV	- Audiovisual Aids - EUDISED subsystem
BDP	- Biblioteca di Documentazione Pedagogica, Italy
BEI	- British Education Index
BLAISE	- British Library Automated Information System for Education
BLRD	- British Library Research and Development
CDS	- Computerised Documentation Service - Unesco CDS/ISIS
CEAS	- Co-operative Educational Abstracting Service - IBE
CEPES	- Centre Européen pour l'Enseignement Supérieur - Unesco
CERI	- Centre for Educational Research and Innovation - OECD
CIJE	- Current Index to Journals in Education - ERIC
CMEA	- Council of Mutual Economic Assistance
CNDP	- Centre National de Documentation Pédagogique, France
CRESALC	- Centre Regionale pour l'Enseignement Supérieur en Amerique Latine et Caraibes - Unesco
DCEE	- Documentation Centre for Education in Europe - Council of Europe
DIPF	- Deutsches Institut für Internationale Pädagogische Forschung, FRG
DOPAED	- Dokumentationsring Pädagogik
DOR	- Diferencirovannoje obsluživanije rukovoditelej /Differentiated Service for Administrators/, USSR
EDICO	- Educational Information Colloquy
EIC-PET	- European Information Centre of Charles University for Further Education of Teachers, Czechoslovakia
EP	- Educational Periodicals - EUDISED subsystem

ERIC - Educational Resources Information Center, USA

EUDISED - European Documentation and Information System for Education - Council of Europe

EURYDICE - Education Information Network in the European Community

FAO - Food and Agriculture Organization - UN

FID - Fédération Internationale de Documentation

FID/ET - Education and Training Committee - FID

GNPB - Gosudarstvennaja naučno-pedagogičeskaja biblioteka im.K.D.Ušinskogo /K.D.Ušinski National Scientific Pedagogical Library/, USSR

HEP - Higher Education and Training of Educational Personnel - Unesco Division

IBE - International Bureau of Education - Unesco

IBECENT - centres and institutions data base - IBE

IBEDATA - series of manuals - IBE

IBEDOC - documentation data base - IBE

IBELIB - library data base - IBE

IBETERM - terminology of thesaurus data base - IBE

IBP - Instytut Badań Pedagogicznych /Institut for Educational Research/, Poland

ICE - International Conference on Education

ICET - International Council on Education for Teaching

ICSU - International Council of Scientific Unions

IERS - International Educational Reporting Service - IBE

IFIP - International Federation for Information Processing

IFLA - International Federation of Library Associations

IIEP - International Institute for Educational Planning - Unesco

IKN - Instytut Kształcenia Nauczycieli /Institute of In-service Teacher Education/, Poland

ILO - International Labour Organisation

INED - International Network for Educational Information

INFUSE - Information Use (forum), UK

INRP - Institut National de Recherche Pédagogique, France

INSET - in-service education of teachers

IPKIR - Institut povyšenija kvalifikacii informacionnych rabotnikov /Institute for In-service Education of Information Workers/, USSR

ISIS - Integrated Set of Information Systems - Unesco CDS/ISIS

248

ISO	- International Standard Organization
LAD	- Library, Archives and Documentation Services - Unesco Division
LEA	- Local Educational Authority, UK
LISE	- Librarians of Institutes and Schools of Education, UK
LOEX	- Library Orientation and Education Exchange, USA
MCNTI	- Meždunarodnyj centr naučnoj i techničeskoj informacii /International Centre of Scientific and Technological Information/
ME	- Ministry of Education
MEP	- Microelectronic Education Programme, UK
MISON	- Meždunarodnaja informacionnaja sistema po obščestvennym naukam /International Information System for Social Sciences/
MSNTI	- Meždunarodnaja sistema naučnoj i techničeskoj informacii /International System of Scientific and Technological Information/
NC	- national centre
NFER	- National Foundation for Educational Research, UK
NICEM	- National Information Center for Educational Media, USA
NIIOP	- Naučno-issledovatel´skij institut obščej pedagogiki /Research Institute of General Pedagogy/ - APN SSSR, USSR
OCNI	- Otraslevoj centr naučnoj informacii "Škola i pedagogika" /Branch Centre of Scientific Information "School and Pedagogy/, USSR
OECD	- Organization for Economic Co-operation and Development
PGI	- Programme Général d´Information - Unesco
PRECIS	- British National Bibliography information system
R+D	- Research and Development - EUDISED subsystem
RIE	- Resources in Education - ERIC abstract journal
SDI	- selective dissemination of information
SIFT	- Sources of Information for Teachers /exhibition/, UK
SIRE	- Series of International Reports on Education - IBE
SPK-ÚŠI	- Slovenská pedagogická knižnica a ústav školských informácií /Slovak Pedagogical Library and Institute of Educational Information/, Czechoslovakia
STI	- scientific and technological information

UAP - Universal Availability of Publications - Unesco programme

UIE - Unesco Institute for Education

UN - United Nations

Unesco - United Nations Education, Science and Culture Organization

UNISIST - Intergovernmental Programme for Co-operation in the Field of Scientific and Technological Information - Unesco

ÚŠI - Ústav školských informací při ministerstvu školství ČSR /Institute of Educational Information at the Ministry of Education of the Czech Socialist Republic/, Czechoslovakia

ÚÚVPP - Ústřední ústav pro vzdělávání pedagogických pracovníků /Central Institute of In-service Training for Educational Personnel/, Czechoslovakia

ÚVTEI - Ústředí vědeckých, technických a ekonomických informací /Centre of Scientific, Technological and Economic Information/, Czechoslovakia

VINITI - Vsesojuznyj institut naučnoj i techničeskoj informacii /All-Union Institute of Scientific and Technological Information/, USSR

WHO - World Health Organization - UN

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8. EDICO. Proceedings of the European Colloquium EDICO-4, Bratislava, 25-28 June 1984. Bratislava, SPK-ÚSI 1985. 334 p. - Also in Russian and Slovak.

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ПРОХАЗКОВА, Х.: Информация и учитель. Прага, Карлов университет 1985.273 стр. Европейский информационный центр по повышению квалификации учителей. Серия: Повышение квалификации учителей. Сборник статей, сообщений и рецензий. Том 4.

Монография посвящена актуальной проблематике отношения учителя к информации как ее потребителя, создателя, коммуникатора и методиста. Для понимания содержания и структуры работы основным исходным положением служат рекомендации, содержащиеся в документах соответствующих международных конференций и организаций, в частности, ЮНЕСКО, на которых вытекают следующие приоритеты:

а) оценка действенности служб систем педагогической информации в национальном и международном масштабах по отношению к дифференцированным потребностям разных категорий педагогических работников;
б) изучение информационных потребностей учителей как наиболее многочисленной и разнообразной категории потребителей (но и создателей) информации с точки зрения особенностей их информационной среды и поведения;
в) рассмотрение проблемы информационной подготовки по отношению к учителям, т.е. в связи с их собственной квалификацией и методическим назначением в области информационной грамотности как составного звена образования, а также с учетом последствий развития информационной науки и техники на участке народного образования.

П е р в ы й раздел, названный "Системы педагогической информации и их службы", содержит исторический обзор развития национальной институциональной базы и сотрудничества в международном масштабе, побуждаемого активной деятельностью ЮНЕСКО. Потом следует общая характеристика национальных центров и сетей с точки зрения внутренней дифференциации и разделения труда по отраслям, территории, ступеням учебных заведений и информационным функциям в отношении к разным типам потребителей обслуживания; она иллюстрируется на примерах из европейского региона; из социалистических стран более подробно на примере системы научно-педагогической информации в СССР; из западноевропейских стран на примерах Великобритании и Франции. Развитие международного обмена информацией намечено по линии учительских объединений, специальных неправительственных организаций, равно как и в более широких рамках межправительственных организаций, прежде всего ЮНЕСКО, СЭВ и Европейского Совета.

Далее рассмотрены отдельные системы педагогической информации, как полностью автоматизированные, так и проектированные, причем в такой последовательности, в какой они предлагали постепенно свое обслуживание в международном масштабе. Это система ERIC (США), покрывающая источники по образованию общемировой продукции, которые публикуются на английском языке; мультилингвальная система EUDISED (Европейский Совет) с подсистемами для научно-исследовательских работ, журнальных статей и аудиовизуальных средств - все это относительно преимущественно к Западной Европе; субрегиональную действенность имеет также коопера-

251

тивное сообщество DORADO для стран Западной Европы с немецким языком; и наконец, ПЕДИНФОРМ как проектированная система стран социалистического содружества, основывающаяся на традиционном дву- и многостороннем сотрудничестве. После сего дается обзор общеевропейских стремлений, развивавшихся особенно на международном форуме коллоквиуме ЭДИЮ, организуемого по чехословацкой инициативе при участии ЮНЕСКО и Международного бюро просвещения (МБП).

Программам ЮНЕСКО в информационной сфере вообще и в особенности с учетом педагогической информации, а в связи с этим посланию МБП в Женеве посвящена следующая глава, в которой дается подробная характеристика международных последствий реализации Рекомендации № 71 (на 36-ой сессии Международной конференции по образованию, Женева 1977 г.). Одним из них является создание общемировой сети педагогической информации МИПД, в которой описывается конкретные меры со стороны МБП как центра координационной деятельности и информационного обслуживания, особенно в рамках среднесрочного плана ЮНЕСКО на период 1984 - 1989 гг.

Следующая глава знакомит с региональной подсистемой, реализованной Европейским информационным центром по повышению квалификации учителей (ЕИЦ-ПКУ), ЧССР. По определении условий возникновения и назначения ЕИЦ-ПКУ, описывается строительство международной сети и обслуживания в области перманентного повышения квалификации педагогических кадров и работников народного образования разных специальностей, на всех ступенях и по отдельным функциональным категориям, а именно на базе рекомендации совещания экспертов, созванного ЮНЕСКО для рассмотрения программ на период 1978 - 1983 гг. Приоритетными заданиями были следующие: определение заведений, координация информационной деятельности, улучшение методов сотрудничества и средств коммуникации, эффективное информирование путем обзоров и библиографии, опосредование источников, исследовательская, преимущественно аналитическая деятельность в европейском регионе в данной проблемной области с ориентацией на сотрудничество в рамках стран-членов СЭВ и ЮНЕСКО.

Международный охват информационной деятельности ЕИЦ-ПКУ посредством его рабочих языков (т.е. помимо чешского параллельно русский и английский) распространялся многократно путем перенимания и распространения его информаций через разные крупные системы, например ERIC, но особенно путем активного сотрудничества ЕИЦ-ПКУ с МБП тем, что в его базу данных поступает информация на основе контракта с ЮНЕСКО, а именно с 1980 года с ретроспективой от 1984 года (для автоматизированной системы с 1981 года). Участие ЕИЦ-ПКУ в развитии международного взаимопонимания оценивается позитивно, поддерживается его программная линия на период 1984 - 1989 гг., что было выражено на совещании экспертов, в частности, в области информационного анализа, обратной взаимосвязи с потребителями-педагогами, и на участке использования современной информационной техники.

В т о р о й раздел публикации занимается проблематикой, названной "Информационные потребности учителей". Сначала дается характеристика информационной среды педагогических работников, причем как с точки зрения официальных коммуникационных ка-

252

налов, связанных с развитием политики в области народного образования, с территориальной структурой учебно-воспитательной системы, с результатами педагогических исследований и с деятельностью системы усовершенствования учителей, так и по отношению к собственным информационным потребностям учителей, вытекающих на основе проблем практики преподавания, обмена и распространения педагогического опыта, а также субъективно мотивированного самообразования. Единство информационных и образовательных потребностей учителей иллюстрируется на примерах международных исследований, далее развертывается на примере реализации проекта дальнейшего развития учебно-воспитательной системы в ЧССР, причем как при обеспечивании своевременной информированности учителей как условия новшеств, внедряемых в народное образование.

Следующая глава, посвященная информационному поведению учителей, направлена в основном: на коммуникацию между областью педагогических исследований и практикой обучения на конкретных примерах разных стран; на отношение учительской профессии к педагогической литературе научной и методической; на адекватность служб информационных систем для потребностей отдельных категорий потребителей информации, а именно в областях управления народным образованием, педагогических исследований и, прежде всего, учительской практики. Последняя массовая категория далее расчленяется с точки зрения информационных запросов, вытекающих из отличий отдельных ступеней и типов учебных заведений. Затем следует общая характеристика отношения учителей к источникам информации, как оно было оценено на международных форумах с учетом особенностей учителей как потребителей информации, какими являются, например, понятие группового потребителя в рамках предметной дидактики и распределительных возможностей территориальной сети в народном образовании на национальном уровне; необходимость нескольких направлений потока информации между отдельными звеньями и уровнями педагогического сообщества; значение методического действия учителя на потребительское умение учащихся.

Далее следует сравнительное изучение потребительского профиля учителей на основе исследований, проводимых независимо друг от друга в ПНР, Великобритании и СССР, а именно с точки зрения исходных положений и замыслов соответствующих проектов и их результатов по отношению к информационным потребностям учителей и к их профилям по отношению к поиску и использованию информации. Из сопоставления вытекли некоторые общие выводы и рекомендации, направленные на совершенствование информационного обслуживания и экспериментального воздействия на информационные взгляды и поведение учителей.

Наконец приводятся результаты международного исследования, проведенного ЕИЦ-ПКУ в начале 80-х годов среди потребителей с точки зрения их профилей; информационного спроса (по сравнению с информационным предложением, определенным путем библиометрических подходов); запросов на информационные службы и интереса к активному сотрудничеству. Тем самым ЕИЦ-ПКУ приобрел реальную базу для оптимизации своей информационной деятельности; подтвердилась также полезность его функции посредника между универсальными фондами крупных информационных систем и конечными потребителями из педагогической практики

253

на разных уровнях в разных странах, требующими адресное и аналитическое информирование как текущее, так и ретроспективное в зависимости от общественной важности их задач.

Последний, т р е т и й раздел работы назван "Информационная грамотность и школа"; во вступлении рассматривается о подготовке потребителей в рамках информационной политики, особенно с точки зрения международной деятельности неправительственных организаций (FID, IFLA) и межправительственных организаций (СЭВ, ЮНЕСКО). Особенно речь идет о конкретной рекомендации и мерах Всеобщей информационной программы и ЮНИСИСТ, реализуемых на национальном уровне, причем как посредством информационной политики, так и политики в области народного образования в данной стране. Как реализуются эти рекомендации - это показано на примерах национальных программ и служб в СССР, США, Великобритании и ЧССР.

В следующей главе приводится понятие информационной грамотности как интегрального составляющего образования; рассматриваются ее отдельные аспекты и проявления; особенно характеризуются крайние концепции "информационной техники" и "информационной культуры" по отношению к педагогическому процессу и информационно ориентируемому образованию. После сего следуют примеры развития информационного умения учащихся, реализуемые в рамках учебных программ в ЧССР и Великобритании.

Уделено внимание также библиотечно-библиографической части информационной подготовки, в которой указывается роль библиографии в педагогической науке и практике: вслед за этим находится статья, оценивающая долю библиотек в информационной подготовке молодежи, применяемой - на основе рекомендации международных организаций - в некоторых странах, как в СССР, ГДР, ВНР и ЧССР. Далее рассматривается отношение между школьным библиотекарем и учителем, их разделение труда и квалификационные требования, предъявляемые к школьному библиотекарю с учетом его активного участия в учебно-воспитательном процессе и его диалога с учителями.

Последняя глава исходит из общих рассуждений об информационной квалификации учителя с потребительских, творческих и методических по отношению к другим поколениям позиций и их последствий для учительского образования. Затем следует хронологический обзор международных рекомендаций по этой проблематике со стороны ЮНЕСКО, неправительственного Объединения по вопросам учительского образования в Европе (ATEE) и разных конференций, организуемых, например, БИЦ-ПКУ, INFUSE или на коллоквиума ЭДИЮ. Потом указываются избранные примеры национальных программ информационной подготовки учителей в Великобритании, ПНР и ЧССР.

К каждому из трех относительно самостоятельных разделов публикации присоединен список литературы, преимущественно аналитического характера (выступления на конференциях, журнальные статьи и т.п.); сводный перечень основных источников и международных документов приведен в конце труда, равно как и список с изложением сокращений. В качестве приложений содержатся примеры автоматизированного поиска и библиографических публикаций описываемых информационных систем, примеры документов, регули-

254

рущих информационную подготовку учителей (ЮНЕСКО, ПНР, ЧССР).

Публикация предназначена для широкой профессиональной общественности в области информатики и педагогики, библиотековедения и учительства, информационного обслуживания и систем народного образования. Выпущена на чешском, русском и английском языках, имеет своей целью способствовать взаимному диалогу специалистов данных и родственных областей, их взаимодействию при решении открытых вопросов, намеченных в монографии.

ЕИЦ-ПКУ будет приветствовать предложения, примечания, критику и дополнения, так как его главным назначением является помогать взаимному диалогу, а тем самым и международному взаимопониманию и мирному сотрудничеству.

255

Compte rendu d'auteur

PROCHÁZKOVÁ H.: L'information et l'enseignant. Prague, Université Charles 1985. 273 p. - Centre européen d'information sur la formation continue des enseignants. Série: Formation continue des enseignants. Recueil d'articles, de nouvelles et de comptes-rendus. Tome 4.

L'étude monographique est consacrée au problème du rapport entre l'enseignant et l'information en tant qu'utilisateur de celle-ci, créateur, communicateur et méthodologiste. Le point de départ fondamental pour la conception du contenu et la structure du travail sont les recommandations figurant dans les documents des conférences et organisations internationales respectives, notamment de l'UNESCO, d'où découlent les priorités suivantes:

a) Mise en valeur de l'efficacité des services relevant des systèmes d'information pédagogique au niveau national et international suivant les besoins différenciés des diverses catégories de personnels enseignant.

b) Examen des besoins d'information des enseignants en tant que catégorie la plus nombreuse et la plus variée des utilisateurs (et créateurs) d'information au point de vue des particularités de leur milieu d'information et de leur comportement.

c) Jugement du problème de l'éducation des enseignants quant à l'information, c'est-à-dire en liaison avec leur propre formation et la mission méthodique dans le domaine de la culture de l'information en tant que partie de l'éducation et en égard aux conséquences du développement de la science et de la technique de l'information dans l'enseignement.

La p r e m i è r e partie, appelée "Systèmes d'information pédagogique et leurs services", est présentée comme une excursion historique dans l'évolution de la base nationale et institutionelle et de la coopération à l'échelle internationale, encouragée par l'activité de l'UNESCO. La suite est une caractéristique générale des centres et réseaux nationaux au point de vue de leur différenciation interne et de la division du travail par branches, territoires, suivant les degrés des écoles et des fonctions informatiques d'après les différents types des utilisateurs des services. Cette caractéristique est documentée par des exemples pris dans la région de l'Europe, détaillée, pour les pays socialistes, par la système d'information pédagogique de l'U.R.S.S. et les systèmes de Grande Bretagne et de la France, pour les pays ouest-européens. Le développement des échanges d'information est esquissé suivant la ligne des fédérations d'enseignants, des organisations professionelles non gouvernementales, ainsi que dans un cadre plus large des organisations intergouvernementales, avant tout l'UNESCO, le C.A.E.M. et le Conseil de l'Europe.

Ensuite, on analyse les différents systèmes d'information pédagogique, pleinement automatisés et projetés, dans l'ordre suivant lequel ils offraient progressivement leurs

services de portée internationale. Il s'agit du système ERIC (USA) couvrant les documents sur l'éducation proyenent du monde entier, publiés en anglais; ensuite, le système multilingue EUDISED (Conseil de l Europe) avec les sous-systèmes pour les nouvelles de la recherche, les articles des périodiques et les moyens audiovisuels à gestion limitée avant tout a l Europe occidentale; une activité sous-régionale développe également l association coopérative DOPARD pour les pays ouest-européens de langue allemande; enfin le PEDINFORM, système projeté par les pays de la communauté socialiste, est fondé sur une coopération traditionnelle bilatérale et multilatérale. Vient ensuite un aperçu des efforts de toute l Europe développés notamment au forum international du colloque EDICO, organisé sur l initiative de la Tchécoslovaquie et avec la participation de l UNESCO et du Bureau international pour l éducation (BIE).

La partie suivante, dans laquelle sont caractérisées en détail les conséquences internationales de la Recommandation n° 71 (de la 3e session de la Conférence internationale de l éducation, Geneve 1977), est consacrée aux programmes de l UNESCO dans la sphere de l information en général et d information pédagogique en particulier et, dans ce contexte, a la mission du BIE a Geneve. Une de ces conséquences est la mise en place du Réseau international d information sur l éducation (INED), ou sont caractérisées les mesures concretes prises par le BIE en tant que centre de coordination des activités et des services, notamment dans le cadre du plan a moyen terme de l UNESCO pour les années 1984-1989.

Le paragraphe suivant traite du sous-système régional réalisé par le Centre européen d information sur la formation continue des enseignants (abbrev. angl. EIC-PET), Prague, Tchécoslovaquie. Apres la délimitation des conditions de sa naissance et de sa mission, l EIC-PET est caractérisé par l édification d un réseau international et les services dans le domaine de la formation continue des personnels enseignant et scolaires de toutes les branches, degrés et catégories fonctionnelles pendant toute leur vie et cela, sur la base des recommandations de la réunion consultative des experts convoquée par l UNESCO en vue de juger le programme pour la période 1978-1983. Les tâches prioritaires avaient été: l identification des institutions, la coordination de l activité d information, l amélioration des méthodes de coopération et des moyens de communication, l information efficace au moyen d aperçus et de bibliographies, la mise a la disposition des sources, ainsi que l activité de recherche, surtout analytique, dans la gestion donnée en Europe avec une orientation vers la coopération dans le cadre du C.A.E.M. et de l UNESCO.

Par l intermédiaire de ses langues de travail (en plus du tchèque, le russe et l anglais), la portée internationale des activités d information de l EIC-PET se multiplierent par la réception et la diffusion de ses informations au moyen de divers macrosystemes, par ex. l ERIC, mais surtout par la coopération active de l EIC-PET avec le BIE en contribuant dans sa base des données sur la base du contrat avec l UNESCO

et cela depuis 1974 jusqu'en 1980 (à partir de 1981 pour le système automatisé). La participation de l'EIC-PET au développement de la compréhension internationale est jugé positivement et la ligne de son programme, pour la période 1984-1989, est appuyée par le conseil des experts, notamment dans la domaine de l'analyse d'information, de la rétroaction avec les utilisateurs-pédagogues et de l'utilisation de la technique informatique moderne.

La deuxième partie de la publication traite des problèmes portant le nom "Besoins d'information des enseignants". On y caractérise en premier lieu le milieu d'information des personnels enseignant aussi bien du point de vue des canaux de communication officiels liés au développement de la politique scolaire, en fonction de la structure territoriale du système d'éducation et d'instruction, des résultats de la recherche pédagogique et de l'activité du système du perfectionnement professionnel des enseignants, que du point de vue des besoins d'information personnels des enseignants résultant des problèmes de la pratique d'enseignement, des échanges et de la diffusion des expériences pédagogiques, ainsi que de l'autoéducation de motivation subjective. La discernement de l'unité des besoins d'information et d'éducation des enseignants est documenté par des sondages internationaux et développé ensuite sur un exemple pris dans la réalisation du projet du développement ultérieur du système d'éducation et d'instruction en Tchécoslovaquie et cela, en assurant l'information rapide des enseignants en tant que condition pour l'introduction des innovations dans l'enseignement scolaire.

Le passage suivant est consacré au comportement des enseignants quant à l'information et s'oriente surtout vers la communication entre les domaines de la recherche pédagogique et la pratique d'enseignement sur des exemples concrets de différents pays; ensuite, vers le rapport entre la profession enseignante et la littérature pédagogique, scientifique et méthodologique; enfin également vers l'importance des services des macrosystèmes d'information pour les besoins des différentes catégories d'utilisateurs des informations de la direction d'enseignement, de la recherche pédagogique et, surtout, de la instruction pratique. Cette dernière catégorie généralisée et ensuite subdivisée suivant les exigences d'information résultant de la diversité des degrés et types d'écoles. Avec cela s'enchaine une caractéristique générale du rapport entre les enseignants et les sources d'information telle qu'elle avait été mise en valeur aux forums internationaux du point de vue des particularités de l'enseignant en tant qu'utilisateur d'information. Il s'agit par ex. de la conception de l'utilisateur collectif dans le cadre des didactiques objectives et des possibilités de distribution du réseau territorial dans l'enseignement au niveau national, de la nécessité de l'écoulement multiple d'information entre les différentes parties et différents niveaux de la communauté pédagogique et de l'importance du travail méthodique de l'enseignant anfin d'initier les éleves et les étudiants a l'utilisation.

Vient ensuite une étude comparative du niveau des enseignants en tant qu utilisateurs sur la base de sondages réalisés séparément en Pologne, en Grande Bretagne et en U.R.S.S. et cela du point de vue des issues et des buts des projets respectifs et de leurs résultats par rapport aux besoins d information des enseignants, ainsi que de leur profil dans le domaine de la recherche et de l exploitation d information. Cette comparaison a permis d aboutir a certaines conclusions et recommandations générales pour le perfectionnement des services d information et l influence expérimentale des attitudes et comportements des enseignants en matiere d information.

A la fin, on indique les résultats du sondage international réalisé par l EIC-PET au début des années 80 entre les utilisateurs au point de vue de leur profil, de la demande d information (en comparaison avec l offre d information relevée par les procédés bibliométriques), des exigences quant aux services d information et de la coopération active éventuelle. L EIC-PET a obtenu ainsi une base réelle pour l optimalisation de son activité en matière d information. De cette maniere, s est avérée l utilité de sa fonction d intermédiaire entre les fonds universels des macrosystèmes d information et des utilisateurs finaux dans la pratique pédagogique, aux différents niveaux et dans divers pays, demandant des informations adressées et analytiques continues, ainsi que thématiques selon l importance sociale de leurs tâches.

La t r o i s i è m e et dernière partie de l ouvrage porte le titre "Le niveau de formation dans l information et l école". Elle traite d abord de la formation des utilisateurs dans le cadre de la politique informatique, notamment du point de vue des activités internationales des organisations non-gouvernementales (FID,IFLA), ainsi que des organisations intergouvernementales (C.A.E.M., UNESCO). On y traite particulierement des recommandations et mesures concretes dans le cadre du Programme général d information (PGI) et UNISIST au niveau national et cela aussi bien par le biais de la politique de l information que de la politique scolaire du pays en question. Comment sont réalisées ces recommandations est démontré par les exemples des programmes nationaux et des services en U.R.S.S., aux USA (LOEX), en Grande Bretagne (INFUSE) et en Tchécoslovaquie.

Le passage suivant indique la notion du niveau de formation dans l information en tant que partie intégrale de l instruction et il traite de ses différents aspects et manifestations. On caractérise notamment les conceptions extrêmes de la "technique d information" et de la "culture d information" par rapport au processus pédagogique et de l éducation orientée dans le domaine de l information. Viennent ensuite des exemples sur le développement des aptitudes des élèves dans l information, réalisé dans le cadre du programme d étude appliqué en Tchécoslovaquie et en Grande Bretagne.

Le passage suivant est consacré à la composant bibliothéconomique-bibliographique dans l éducation de l information ou l on mentionne le rôle de la bibliographie dans la

science et la pratique pédagogiques. Ensuite, on présente un article jugeant la part des bibliothèques dans l'éducation de l'information de la jeunesse appliquée, sur la base des recommandations des organisations internationales, dans certain pays - U.R.S.S., R.D.A., Hongrie et Tchécoslovaquie. Ensuite, on analyse le rapport entre le bibliothécaire scolaire et l'enseignant, leur division du travail et la formation demandée au bibliothécaire en prenant en compte sa participation active au processus d'éducation et son dialogue avec l'enseignant.

La dernière partie de l'ouvrage rapporte des considérations générales sur la formation professionelle de l'enseignant en matière d'information au point de vue de l'utilisation, de la création et de la méthode pour les générations futures et elle traite des conséquences pour la formation des enseignants. On présente ensuite un aperçu chronologique des recommandations internationales présentées dans ce domaine par l'UNESCO, l'Association pour l'éducation des enseignants en Europe (ATEE) et les différentes conférences organisées, par ex., par l'EIC-PET, l'INFUSE, ou les colloques EDICO. A ceci se rattachent des exemples choisis de programmes nationaux de l'éducation des enseignants dans l'information de Grande Bretagne, Pologne et Tchécoslovaquie.

A chacune des trois parties relativement indépendantes de la publication est annexée une bibliographie surtout de caractère analytique (contributions aux conférences, articles de périodiques, etc.). A la fin de l'ouvrage est ajoutée une liste complete des principales sources et des documents internationaux, ainsi que la liste et la signification des abréviations. On y joint en annexe des exemples de recherches mécaniques et des publications bibliographiques des systemes informatiques décrits, ainsi que des exemples de documents réglementant l'éducation des enseignants dans le domaine de l'information (UNESCO, Pologne, Tchécoslovaquie).

La publication est réservée pour un public plus large de l'informatique et de la pédagogie, pour les bibliothécaires et les enseignants, pour les services informatiques et les systemes scolaires. Elle est publiée en tchèque, en russe et en anglais et se propose de faciliter le dialogue entre les professionnels de ces domaines ainsi que des domaines similaires, de coordonner leur travail dans la solution des questions irrésolues mentionnées dans cet ouvrage. L'EIC-PET sera également heureux de recevoir des suggestions, remarques, critiques et compléments, car sa principale mission consiste a aider la discussion réciproque, donc aussi la compréhension internationale et la coopération pacifique.

Autorenreferat

PROCHÁZKOVÁ H.: Informationen und Lehrer. Prag, Karluniversität 1985.273 S. - Europäisches Informationszentrum für die Weiterbildung der Lehrer. Reihe: Weiterbildung der Lehrer. Sammelband von Aufsätzen, Berichten und Rezensionen. Bd.4.

Die monographische Studie ist der aktuellen Problematik der Beziehung des Lehrers zu Informationen gewidmet, deren Benützer, Urheber, Kommunikator und Methodiker er ist. Den grundlegenden Ausgangspunkt für die Auffassung des Inhalts und der Struktur der Arbeit bilden Empfehlungen, die in den Dokumenten der entsprechenden internationalen Konferenzen und Organisationen enthalten sind, insbesondere der UNESCO, und aus denen sich folgende Prioritäten ergeben:

a) Die Bewertung der Wirksamkeit der von den Systemen der pädagogischen Informationen auf nationaler und internationaler Ebene gewährten Dienste in der Beziehung zu den differenzierten Bedürfnissen verschiedener Kategorien pädagogischer Arbeit.

b) Die Erforschung der Informationsbedürfnisse der Lehrer als der zahlreichsten und mannigfaltigsten Kategorie von Benützern (und Urhebern) der Informationen vom Gesichtspunkt der Besonderheiten ihres Informationsmillieus und -verhaltens.

c) Die Beurteilung des Problems der Informationserziehung in der Beziehung zu den Lehrer, d.h. im Zusammenhang mit ihrer eigenen Qualifikation und methodischen Berufung im Bereich der Informationskenntnis als Bestandteil der Bildung und unter Berücksichtigung der Folgen, die sich aus der Entwicklung der Informationswissenschaft und -technik im Schulwesen ergeben.

Der e r s t e Komplex mit dem Titel "Die Systeme pädagogischer Informationen und ihre Dienste", wird mit einer historischen Exkursion in die Entwicklung der nationalen institutionellen Basis und der Zusammenarbeit im internationalen Massstab, angeregt durch die Tätigkeit der UNESCO, eingeleitet. Dann folgt eine allgemeine Charakteristik der nationalen Zentralen und Netze vom Gesichtspunkt der internen Differenzierung sowie der fachlichen, territorialen Arbeitsteilung nach den Stufen der Schulen und Informationsfunktionen in der Beziehung zu verschiedenen Typen von Benutzern der Dienste; sie wird mit Beispielen aus der europäischen Region dokumentiert, aus den sozialistischen Ländern eingehender mit dem System pädagogischer Informationen in der UdSSR, aus den westeuropäischen Ländern am Beispiel Gross Britanniens und Frankreichs. Die Entwicklung des internationalen Informationsaustausches ist auf dem Gebiet der Lehrerverbände, fachlicher nichtstaatlicher Organisationen und im breiteren Rahmen der zwischenstaatlichen Organisationen, vor allem der UNESCO, des RGW und des Europäischen Rates angedeutet.

Ferner werden die einzelnen Systeme pädagogischer In-

formationen durchgenommen, voll automatisierter und projektierter, und zwar in der Reihenfolge, in der sie schrittweise ihre Dienste mit internationaler Tragweite angeboten haben. Es sind dies: das System ERIC(USA), das die Quellen der Erziehung von Weltprovenienz umfasst, die in englischer Sprache publiziert werden; weiters das multilinguale System EUDISED (Europäischer Rat) mit seinen Subsystemen für Forschungsberichte, Artikel in Zeitschriften und audiovisuelle Hilfsmittel mit einer Gestion, die vornehmlich auf Westeuropa beschränkt ist; eine subregionale Wirksamkeit weist auch die kooperative Vereinigung DOPAED für die deutschsprachigen Länder Westeuropas auf; schliesslich PEDINFORM als projektiertes System der Länder der sozialistischen Gemeinschaft, basierend auf der traditionellen zwei- und mehrseitigen Zusammenarbeit. Es folgt eine Übersicht gesamteuropäischer Bemühungen, die insbesondere auf den internationalen Forum der Kolloquien von EDICO entfaltet werden, die aufgrund einer tschechoslowakischen Initiative unter Beteiligung der UNESCO und des Internationalen Erziehungsbüros (engl. Abkürz. IBE) veranstaltet werden.

Den Programmen der UNESCO in der Informationssphäre im allgemeinen und unter Berücksichtigung pädagogischer Informationen im besonderen, und in diesem Zusammenhang der Funktion des IBE in Genf, ist der weitere Teil gewidmet. Hier werden detailliert die internationalen Konsequenzen der Verwirklichung der Empfehlung Nr. 71 (von der 36. Tagung der Internationalen Konferenz über Erziehung, Genf 1977) charakterisiert. Eine von ihnen ist der Aufbau des weltumfassenden Netzes pädagogischer Informationen (INED), in dem konkrete Massnahmen von seiten des IBE als Zentralstelle der Koordinationsaktivitäten und Informationsdienste, insbesondere im Rahmen des mittelfristigen Plans der UNESCO für die Jahre 1984-1989 charakterisiert werden.

Ein weiterer Abschnitt gibt Auskunft über die regionalen Subsysteme, die das Europäische Informationszentrum für die Weiterbildung der Lehrer (engl. Abkürz. EIC-FET) in Prag, ČSSR, realisiert. Nach der Definition der Bedingungen für die Entstehung und Funktion des EIC-FET wird die Schaffung eines internationalen Netzes und der Dienste im Bereich der lebenslangen Bildung pädagogischer und schulischer Arbeiter aller Gebiete, Stufen und Funktionskategorien charakterisiert, und zwar aufgrund der Empfehlung der Expertenberatung, die die UNESCO für die Beurteilung des Programms für die Zeitspanne 1978-1983 einberufen hat. Vorrangige Aufgaben waren: die Identifikation von Institutionen, die Koordination von Informationstätigkeiten, die Steigerung der Qualität von Methoden der Zusammenarbeit und der Kommunikationsmittel, eine effektive Information mit Hilfe von Übersichten und Bibliographien sowie die Zugänglichkeit von Quellen und eine vorwiegend analytische Forschungstätigkeit in der gegebenen Gestion in der europäischen Region, ausgerichtet auf die Zusammenarbeit im Rahmen des RGW und der UNESCO.

Die internationale Tragweite der Informationsaktivitäten von EIC-FET wurde vermittels seiner Arbeitssprachen (neben der tschechischen gleichlaufend auch die russische und

englische Sprache) vielfach durch die Übernahme und Verbreitung ihrer Informationen durch verschiedene Makrosysteme erweitert, z.B. durch ERIC, vor allem jedoch durch die aktive Zusammenarbeit von EIC-PET mit IBE mit ihrem Beitrag in die Databasis aufgrund eines Kontraktes mit der UNESCO, und zwar seit dem Jahr 1980 mit einer Retrospektivität ab 1974 (für das automatisierte System ab 1981). Der Anteil von EIC-PET an der Entfaltung der internationalen Verständigung wird positiv eingeschätzt und die Linie seines Programms für die Zeit von 1984-1989 mit einer Expertenberatung insbesondere auf dem Gebiet der Informationsanalyse, der Rückbindung mit den Benützer-Pädagogen und der Ausnützung der modernen Informationstechnik unterstützt.

Der z w e i t e Teil der Publikation befasst sich mit der Problematik, die den Titel "Informationsbedürfnisse der Lehrer" trägt. Zuerst wird hier das Informationsmilieu der pädagogischen Arbeiter charakterisiert, und zwar sowohl vom Gesichtspunkt der offiziellen Kommunikationskanäle, die mit der Entwicklung der Schulpolitik zusammenhängen, mit der territorialen Struktur des erzieherischen Bildungssystems, mit den Ergebnissen der pädagogischen Forschung und der Tätigkeit des Systems für die Fort- und Weiterbildung der Lehrer, als auch in der Beziehung zu den eigenen Informationsbedürfnissen der Lehrer, die sich aus der Problemen der Unterrichtspraxis ergeben, aus dem Austausch und der Verbreitung pädagogischer Erfahrungen und aus der subjektiv motivierten Selbstbildung. Die Erkenntnis der Einheit der Informations- und Bildungsbedürfnisse der Lehrer wird mit internationalen Untersuchungen dokumentiert und weiter am Beispiel der Realisierung des Projekts der weiteren Entfaltung des erzieherischen Bildungssystems in der Tschechoslowakei entwikkelt, und zwar bei der Sicherung einer rechtzeitigen Informiertheit der Lehrer als Bedingung für die ins Schulwesen eingeführten Innovationen.

Ein weiterer Abschnitt ist dem Informationsverhalten der Lehrer gewidmet und insbesondere auf die Kommunikation zwischen dem Bereich der pädagogischen Forschung und der Unterrichtspraxis an konkreten Beispielen aus verschiedenen Ländern ausgerichtet; ferner auf die Beziehung des Lehrerberufs zur pädagogischen wissenschaftlichen und methodischen Literatur; schliesslich auch auf die Relevanz der Dienste Informationsmakrosysteme für die Bedürfnisse einzelner Kategorien von Benützern der Informationen aus der Leitung des Schulwesens, der pädagogischen Forschung und vor allem der Lehrerpraxis. Diese letzte Massenkategorie wird weiter vom Gesichtspunkt der Informationsanforderungen gegliedert, die sich aus der Unterschiedlichkeit der einzelnen Stufen und Typen der Schulen ergeben. Daran knüpft dann eine zusammenfassende Charakteristik der Beziehung der Lehrer zu den Informationsquellen an, wie sie auf internationalen Foren aufgrund der Besonderheiten des Lehrers als eines Benützers von Informationen beurteilt wurde; das ist z.B. die Auffassung eines Gruppennutzers im Rahmen von gegenständlichen Didaktiken und Distributionsmöglichkeiten des territorialen Netzes im Schulwesen auf nationaler Ebene, die Unerlässigkeit eines Informationsflusses in mehreren Richtungen zwischen den einzelnen

Komponenten und Ebenen der pädagogischen Gemeinschaft und die Bedeutung des methodischen Wirkens des Lehrers für die Nutzungfertigkeit der Schüler und Studenten.

Es folgt eine vergleichende Studie des Nutzerprofils der Lehrer aufgrund von unabhängig voneinander durchgeführten Untersuchungen in Polen, Gross Britanien und der UdSSR und zwar vom Gesichtspunkt der Ausgangspunkte und Vorhaben der entsprechenden Projekte und ihrer Ergebnisse in der Beziehung zu den Informationsbedürfnissen der Lehrer und ihres Profils gegenüber dem Aufsuchen und Ausnützen der Informationen. Aus dem Vergleich ergaben sich einige allgemeinen Schlüsse und Empfehlungen, mit dem Ziel einer Vervollkommnung der Informationsdienste sowie der experimentellen Beeinflussung der Einstellungen und des Verhaltens der Lehrer gegenüber Informationen.

Am Schluss werden die Ergebnisse der internationalen Untersuchung angeführt, die von EIC-PET am Anfang der achtziger Jahre unter den Benützern vom Gesichtspunkt ihres Profils, der Informationsnachfrage (im Vergleich mit dem Informationsangebot, das mit bibliometrischen Methoden festgestellt wurde), der Anforderungen an Informationsdienste und einer eventuellen aktiven Zusammenarbeit verwirklicht wurden. EIC-PET hat auf diese Weise eine reale Basis für die Optimalisierung seiner Informationstatigkeit gewonnen. Als nützlich hat sich auch ihre Vermittlerfunktion zwischen den universellen Fonds der Makrosysteme und dem Endnutzer in der padagogischen Praxis auf verschiedenem Niveau in verschiedenen Ländern erwiesen, die eine gezielte und analytische Informiertheit kontinuierlicher und thematischer Art je nach der Wichtigkeit ihrer Aufgaben erfordern.

Der letzte d r i t t e Teil der Arbeit trägt den Titel "Die Informationskenntnis und die Schule" und wird mit einer Abhandlung über die Erziehung der Benützer im Rahmen der Informationspolitik, insbesondere vom Gesichtspunkt der internationalen Aktivitäten der nichtstaatlichen Organisationen (FID, IFLA) und der zwischenstaatlichen Organisationen (RGW, UNESCO) eingeleitet. Hier handelt es sich vor allem um konkrete Empfehlungen und Massnahmen im Rahmen des Allgemeinen Informationsprogramms (PGI) und UNISIST auf nationaler Ebene, und zwar sowohl vermittels der Informationspolitik, als auch der Schulpolitik des gegebenen Landes. Wie diese Empfehlungen verwirklicht werden, zeigen Beispiele der nationalen Programme und Dienste in der UdSSR, den USA (LOEX), in Gross Britannien (INFUSE) und in Tschechoslowakei.

Ein weiterer Abschnitt führt den Begriff der Informationstechnik als integralen Bestandteil der Bildung an und befasst sich mit seinen einzelnen Aspekten und Erscheinungen; insbesondere werden extreme Konzeptionen der "Informationstechnik" und "Informationskultur" charakterisiert in der Beziehung zum pädagogischen Prozess und informationsorientierter Bildung. Es folgen Beispiele der Entfaltung der Informationsfertigkeit von Schülern, realisiert im Rahmen der Richtlinien für den Unterricht in Tescheckoslovakei und in Gross Britannien.

Ferner wendet sich die Aufmerksamkeit der bibliotheka-

Ferner wendet sich die Aufmerksamkeit der bibliothekarischen und bibliographischen Komponente der Informationserziehung zu, wobei die Aufgabe der Bibliographie in der pädagogischen Wissenschaft und Praxis erwähnt wird. Dann folgt ein Aufsatz, der den Anteil der Bibliotheken an der Informationserziehung der Jugend bewertet, so wie sie aufgrund der Empfehlungen der internationalen Organisationen in manchen Ländern - UdSSR, DDR, Ungarn und Tschechoslowakei - zur Anwendung kommen. Weiters wird die Beziehung zwischen dem Schulbibliothekar und dem Lehrer behandelt, ihre Arbeitsteilung sowie die Anforderungen an die Qualifikation des Schulbibliothekars unter Berücksichtigung seiner aktiven Beteiligung am erzieherischen Bildungsprozess und seines Dialogs mit den Lehrern.

Der letzte Abschnitt geht von allgemeinen Erwägungen über die Informationsqualifikation des Lehrers aus, vom Gesichtspunkt der Nutzniessung, Erschaffung und Methodik, gegenüber den künftigen Generationen und ihrer Konsequenzen für die Bildung der Lehrer. Es folgt eine chronologische Übersicht der internationalen Empfehlungen zu dieser Problematik von seiten der UNESCO, der nichtstaatlichen Vereinigung für Lehrerbildung in Europa (ATEE), sowie verschiedener Konferenzen, veranstaltet z.B. vom EIC-FET, INFUSE, oder Kolloquien von EDICO. Daran knüpfen ausgewählte Beispiele nationaler Programme der Informationserziehung von Lehrern in Gross Britannien, Polen und Tschechoslowakei.

Jedem der drei relativ selbständigen Teile der Publikation ist ein Verzeichnis der Literatur beigefügt, vorwiegend analytischen Charakters (Beiträge auf Konferenzen, Artikel in Zeitschriften u.ä.); eine umfassende Zusammenstellung der grundlegenden Quellen und internationalen Dokumente befindet sich am Ende der Arbeit, ebenso wie ein Verzeichnis und eine Auslegung der Abkürzungen. Als Beilage sind Beispiele von automatisierten Nachforschungen und bibliographischen Publikationen der beschriebenen Informationssysteme hinzugefügt, sowie Beispiele von Dokumenten, die die Informationserziehung der Lehrer regeln (UNESCO, Polen, Tschechoslowakei).

Die Publikation ist für die breitere fachliche Öffentlichkeit aus dem Bereich der Informatik und Pädagogik bestimmt; ferner des Bibliothekswesen und Lehrerberufs; der Informationsdienste und Schulsystems. Sie wird in tschechischer, russischer und englischer Version herausgegeben und soll den gegenseitigen Dialog zwischen Fachleuten aus diesen und verwandten Bereichen unterstützen und zu ihrer Zusammenarbeit bei der Lösung offener Fragen beitragen, wie sie in der Arbeit angedeutet sind. Auch EIC-FET begrüssen Themen, Bemerkungen, Kritiken und Ergänzungen, denn es ist ihre Hauptaufgabe eine gegenseitige Diskussion zu fördern und auf diese Weise auch internationale Verständigung und friedliche Zusammenarbeit zu unterstützen.

Reseña de la autora

PROCHÁZKOVÁ, H.: Informaciones y el maestro. Praga, Universidad Carolina 1985. 273 p. - Centro Europeo de Informaciones para la Superación de los Maestros. Serie: Superación de los maestros. Miscelánes de artículos, noticias y resenas. Vol. 4.

El estudio monográfico se dedica a un problema actual: la relación y actitud del maestro ante las informaciones, siendo su creador, usuario, transmisor y metodologo. El punto de partida, fundamental para la concepcion del contenido y estructura del trabajo, consiste en las recomendaciones contenidas en los documentos de las respectivas conferencias y organizaciones, ante todo de la UNESCO, de las cuales se desprenden las siguientes prioridades:

a) Evaluación de la eficiencia de los servicios de los sistemas de las informaciones pedagógicas en los niveles nacional e internacional, respecto de las necesidades diferenciadas de las respectivas categorías del personal docente;

b) análisis de las necesidades de información de los maestros como categoría más numerosa y diversificada de los usuarios y creadores de las informaciones, desde el punto de vista de las peculiaridades de su ambiente y comportamiento ante las informaciones;

c) evaluación del problema de la educación relacionada con las informaciones y su adecuación a las necesidades del maestro, es decir, en relacion con su propio nivel profesional y misión metodológica en el área de la instruccion informacional como componente de su formacion, tomando en consideración las consecuencias del desarollo de la ciencia de informaciones y de su técnica en el sistema educativo.

La p r i m e r a parte lleva el nombre "Sistemad de informaciones pedagógicas y sus servicios" y comienza con una resena historica del desarrollo de la base institucional nacional y de la cooperacion en la escala internacional, inspirada por las actividades de la UNESCO. Sigue una caracterizacion general de los centros y redes nacionales, descrita desde el punto de vista de su diferenciacion interior y de la division del trabajo, realizada desde el punto de vista de las disciplinas, división territorial, los niveles de la ensenanza y las funciones informacionales relacionades con los diferentes tipos de usuarios. Se presentan documentos de la región europea, tomando como ejemplo de los países socialistas el sistema de informaciones científico-pedagógicas de la URSS; de los capitalistas, Gran Bretana y Francia.

El desarrollo del intercambio internacional de las informaciones está esbozado, siguiendo las líneas de las uniones /centrales/ de maestros, las organizaciones profesionales no-gubernamentales, y, dentro de un marco más amplio, de las organizaciones intergubernamentales, ante todo de la UNESCO, del CAME y del Consejo Europeo.

A continuación se analizan los diferentes sistemas de informaciones pedagógicas, tanto los completamente automati-

sados como los que están en proyecto, siguiendo el orden según el cual fueron ofreciendo sus servicios en la escala internacional. Se trata de los sistemas siguientes: el ERIC/EEUU/, que abarca las fuentes dedicadas a la pedagogía, publicadas en inglés, en escala mundial; el sistema multilingual EUDISED /Consejo Europeo/, con los subsistemas para las resenas de investigaciones, artículos y medios audiovisuales, de gestión limitada ante todo en la Europa Occidental; el DOPAED, asociación subregional de cooperación para los países de Europa Occidental de habla alemana; y por último, PEDINFORM, sistema de los países de la comunidad socialista, en proyecto, basada en las tradiciones de la cooperación bi- y multilateral. Después sigue un relato de los esfuerzos europeos, desarrollados ante todo en la escala internacional: el coloquio EDICO, organizado por la iniciativa checoslovaca con la participación de la UNESCO de la Oficina International de Educación (OIE).

Los programas de la UNESCO en la esfera de las informaciones en general, considerando las informacionas pedagógicas en particular, y, en este lugar, la misión de la OIE en Ginebra, son el tema de la parte siguiente, en la cual se caracterizan detalladamente las consecuencias internacionales de la realización de la Recomendación No 71, del 36° período de sesiones de la Conferencia Internacional sobre la Educación, Ginebra, 1977, siendo una de ellas el establecimiento de una red universal de informaciones pedagógicas, INED, y caracterizando las medias concretas a tomar por parte de la OIE en calidad de centros de las actividades de coordinación y servicios de información, en particular en el marco del plan de la UNESCO a plazo medio para los anos 1984 - 1989.

Los párrafos siguientes introducen un subsistema regional, llevado a cabo por el Centro Europeo de Informaciones para la Superación de los Maestros (abr. ingl. EIC-PET) de Praga, RSCh. Después de definir las condiciones de la fundación y misión del EIC-PET, se caracteriza el establicimiento de la red y servicios internacionales en el campo de la formación continua del personal docente de todas las disciplinas, niveles y categorías funcionales, partiendo de las recomendaciones de la reunión consultiva de los especialistas, convocada por la UNESCO con el objetivo de analizar el programa para el período 1978 - 1983. Se han definido las prioridades siguientes: identificación de instituciones, coordinación de las actividades informacionales, perfeccionamiento do los métodos de cooperación y de los medios de comunicación, informaciones eficientes por medio de revistas y bibliografías, incluyendo la popularización de las fuentes, y las actividades investigativas, ante todo analíticas, en el campo dado en la región europea, orientada a la cooperación en el marco del CAME y de la UNESCO.

El alcance internacional de las actividades desarrolladas por el EIC-PET en el campo de las informaciones, realizadas en sus lenguas de trabajo (además del checo, paralelamente el ruso y el inglés), se multiplico adoptando y propagando sus informaciones por medio de diferentes macrosistemas, por ejemplo el ERIC, pero ante todo por una cooperación activa entre el EIC-PET y la OIE por medio de contribuciones a su base de da-

tos sobre la base del contrato con la UNESCO, desde el año 1980, con la retrospectiva desde el 1974, para el sistema automatizado, desde 1981. La participacion del EIC-FET en el desarrollo de la comprensión internacional ha sido valorado positivamente y se ha apoyado su línea programática para el período 1984-1989, en la reunión consultiva de los especialistas, ante todo en el campo del análisis de las informaciones, su repercusión sobre los usuarios, el personal docente, y el aprovechamiento de la moderna técnica de información.

La s e g u n d a parte de la publicación se dedica a los problemas denominados "Necesidades de información por parte de los maestros", y parte de una caracterisacion del medio informacional del personal docente, tanto desde el punto de vista de los canales oficiales de información, relacionados con el desarrollo de la política educativa, con la estructura territorial del sistema educativo, con los resultados de la investigación pedagógica y con las actividades del sistema de superación de los maestros, como de sus relaciones con las propias necesidades individuales de información por parte del maestro, que se desprenden de los problemas de su práctica docente, del intercambio y propagacion de las experiencias pedagógicas y de la autoformacion, motivada subjetivamente. La identificacion de la unidad de las necesidades informativas y formativas de los maestros se evidencia partiendo de las investigaciones internacionales y se desarrolla aprovechando el ejemplo de la realisacion del proyecto del desarrollo del sistema educativo de la RSCh, especialmente del aseguramiento de las informaciones de los maestros en el período necesario como una condicion indispensable de la introduccion de las innovaciones en el sistema educativo.

La sección siguiente se dedica al comportamiento informacional de los maestros, orientándose ante todo a la comunicacion entre el campo de la investigacion pedagógica y la actividad docente, partiendo de los ejemplo concretos de los diferentes países; además, abarca la relación de los maestros con la literatura pedagógica tanto científica, como metodológica; y a la relevancia e importancia de los servicios de los macrosistemas informacionales para cumplir las necesidad de las categorías individuales de los usuarios de las informaciones de la administracion de la educacion, de las investigaciones pedagógicas, y ante todo, de la práctica docente. Esta última categoría es masiva y se diferencia desde el punto de vista de las exigencias de informaciones que se desprenden de las diferencias existentes entre los diferentes niveles y tipos de escuelas. Luego sigue una caracterisación global de las actitudes de los maestros ante las fuentes de información, que parte de sus evaluaciones en los foros internacionales desde el punto de vista de las particularidades del maestro como usuario de las informaciones, por ejemplo, la concepción del usuario colectivo en el marco de las didácticas de las disciplinas individuales y de las posibilidades de distribucion de la red territorial del sistema educativo al nivel nacional; el carácter indispensable del fluje multidireccional de las informaciones entre los componentes y niveles individuales de la comunidad pedagógica, y la importancia de la actuacion metodológica del maestro sobre las capacidades de alumnos y estudiantes en calidad de usuarios.

Los párrafos siguientes son dedicados al perfil de los maestros en calidad de usuarios y parten de las investigaciones, realizadas independientemente en la República Popular Polaca, Gran Bretaña y URSS, partiendo desde el punto de vista de los puntos de partida e intenciones de los respectivos proyectos y de su perfil en relación con la indagación y aprovechamiento de las informaciones. De su comparación se desprenden ciertas conclusiones y recomendaciones generales, orientadas a perfeccionar los sistemas de informaciones, y experimentos para influenciar las actitudes y comportamiento de los maestros ante las informaciones.

Al final se citan los resultados de une investigación internacional, llevada a cabo por el EIC-PET al principio de la década de los 80 entre los usuarios desde el punto de vista de sus perfiles, de su demanda de informaciones, en comparación con la oferta, averiguada por los procedimientos bibliométricos, las exigencias de los servicios de información y la posible cooperación activa. El EIC-PET ha obtenido una base real para optimalizar sus actividades informativas, y, al mismo tiempo, se ha evidenciado la importancia y utilidad de su función de intermediario entre los fondos universales de los macrosistemas de informaciones y sus usuarios finales en la práctica docente en los diferentes niveles y en los diferentes países, que exigen ser informados de manera directa, analítica, ininterrupida y temática, conforme a la importancia social de sus tareas.

La t e r c e r a parte de la obra lleva la denominación "La instrucción informacional y la escuela" y comienza por una reseña de la formación de los usuarios en el marco de la política de informaciones, ante todo desde el punto de vista de las actividades internacionales de las organizaciones no-gubernamentales (FID, IFLA), así como de la intergubernamentales (CAME, UNESCO). Se consideran ante todo las recomendaciones y medidas concretas tomadas en el marco del Programa General de Informaciones (PGI) y del UNISIST a nivel nacional, tanto por medio de la política de informaciones, tanto de la política educativa del respectivo país. El nivel de realización de las recomendaciones es documentado por los ejemplos de los programas y servicios nacionales de la URSS, EEUU (LOEX), Gran Bretaña (INFUSE), y RSCh.

Otra parte introduce el concepto de la instrucción informacional como una parte integrante de la formación y analiza sus aspectos individuales y sus manifestaciones. Se caracterizan ante todo las extremas concepciones de la "técnica informacional" y "cultura informacional", relacionadas con el proceso docente y con la formación orientada a las informaciones. Siguen los ejemplos del desarrollo de las destrezas informacionales de los alumnos, realisados en el marco de los programas de estudio de la RSCh y de Gran Bretaña.

A continuación se analisa el componente bibliotecario-bibliográfico de la instrucción informacional, donde se menciona también el papel de la bibliografía en la ciencia y práctica pedagógica, y después se analisa el papel de las bibliotecas en la formación informacional de los jóvenes, lle-

vado a cabo sobre la base de las recomendaciones de las organizaciones internacionales en varios países (URSS, RDA, República Popular Húngara, RSCh). Después se estudia la relación existente entre el bibliotecario de la escuela y el maestro, su división de trabajo, y las necesidades del nivel profesional del bibliotecario de la escuela, considerando su participación activa en el procesu docente y su diálogo con los maestros.

El último capítulo parte de las consideraciones generales del nivel informacional del maestro desde el punto de vista del usuario, creador y metodólogo en relación con las futuras generaciones, y su repercusión en la formación de los maestros. Sigue un resumen cronológico de las recomendaciones, en la escala internacional, presentadas, en relación con los problemas en cuestión, por parte de la UNESCO, de la organización no-gubernamental Asociación para la Formación de Maestros en Europa (ATEE), y de las diferentes conferencias, organizadas por ejemplo por el EIC-PET de Praga, INFUSE, o del coloquio del KDICO. Con lo anterior se relacionan los ejemplos seleccionados de los programas de la formación informacional de los maestros de la Gran Bretaña, República Popular de Polonia, y RSCh.

Cada una de las tres partes de la obra, relativamente independientes, conlleva una lista bibliográfica, ante todo de carácter analítico (ponencias, artículos, etc.); la bibliografía general de las fuentes y de los documentos internacionales se encuentra al final de la obra, junto con la lista y explicación de las siglas. Como anexo aparecen fragmentos de investigaciones automáticas y de publicaciones bibliográficas de los sistemas de informaciones analizados, y los ejemplos de los documentos que rigen la formación informacional de los maestros (UNESCO, República Popular de Polonia, RSCh).

La monografía está destinada al amplio público especializado en el campo de las informaciones y pedagogía, bibliotecas y formación del personal docente, servicios de información de los sistemas educativos. Se publica en las versiones checa, rusa e inglesa y su objetivo es fomentar el diálogo de los especialistas de los campos mencionados y afines y a su cooperación en la solución de los problemas abiertos, esbozados en la obra. También el EIC-PET celebrará los proyectos, observaciones, críticas y contribuciones, ya que su misión primordial es apoyar la discusión y, por consiguiente, la comprensión internacional y la cooperación con fines pacíficos.

INFORMATION AND THE TEACHER

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272